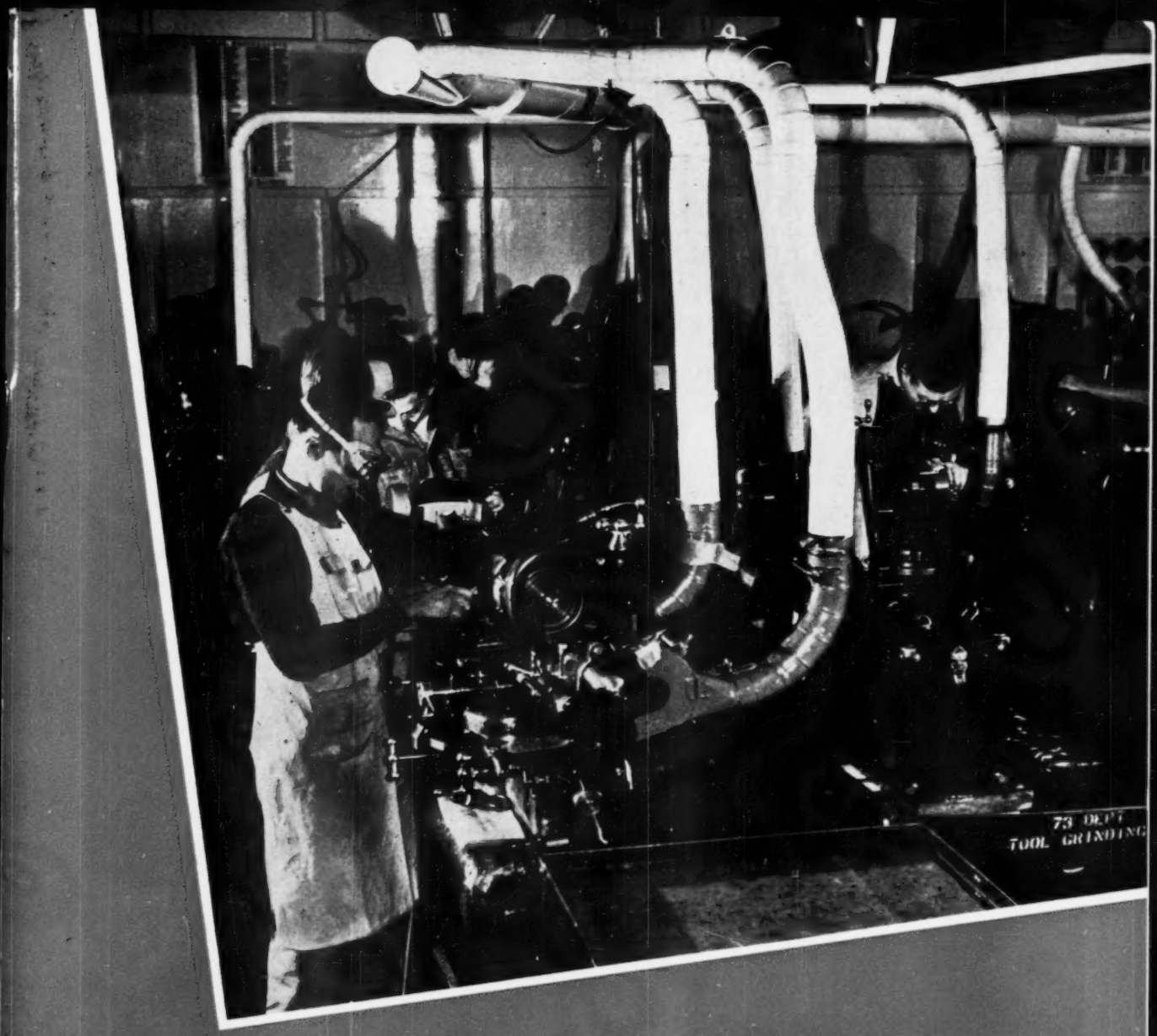


Safety Maintenance and Production

EST. 1901

AMERICA'S PIONEER MAGAZINE IN ITS FIELD

APRIL, 1953
FIFTY CENTS

They're Longer-Lasting, Lighter, More Flexible!

NEOPRENE LATEX CLOTHING

Need protection for your workers against abrasion, oils, greases, acids and alkalis? These *high quality* garments of Neoprene Latex offer you big money's worth 5 ways:

1. They're *saturation coated* for long life. Not one or two coats but *seven*.
2. They're lightweight — no loaders present.
3. They're flexible in heat or cold.
4. They're styled to fit.
5. They're easy to clean.

Your nearest AO Safety Products Representative can supply you.

SLEEVE MODEL 18NL

18″ long. Weight 9½ oz. per pair. Seam on each sleeve absolutely waterproof. Strong, durable elastic at cuff and top. For all wet work (as in canneries), grinding, bench and acid operations.

7X139NL SPAT

Gives full protection for ankle and instep. Three snap adjustments at top and two at bottom make spat easy to put on, adjust and remove. Coated all the way thru with 100% Neoprene Latex for your protection.

142DC APRON

42″ long*. Recommended for use in the chemical and public utility industries, mining, dairies, meat packing.

*Also available in 30″, 36″, and 48″ lengths.

American Optical

SAFETY PRODUCTS DIVISION

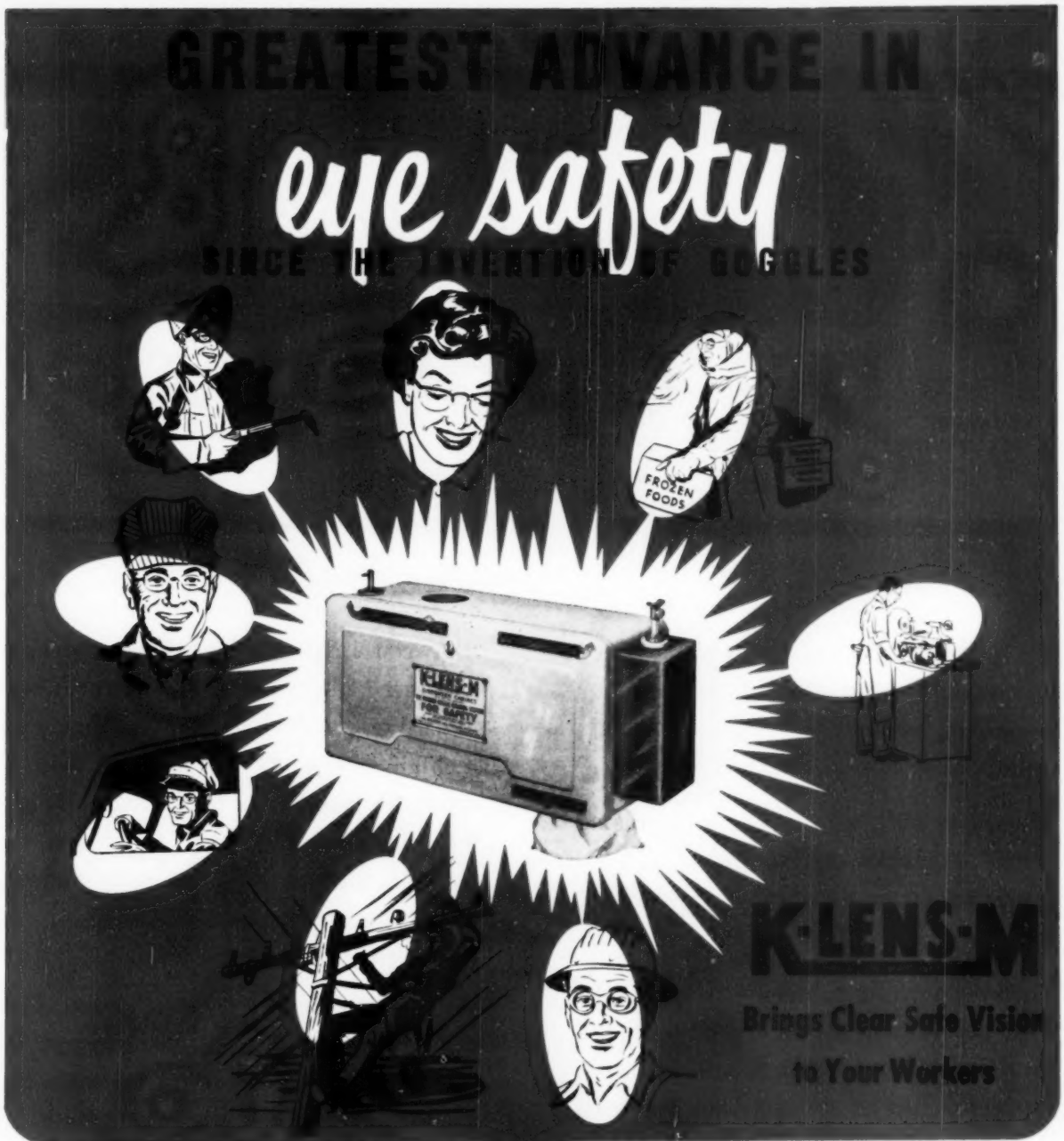
SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

(For further details, use Key # D-1 on free Inquiry Card on page 81)

GREATEST ADVANCE IN

eye safety

SINCE THE INVENTION OF GOGGLES



K-LENS-M

Brings Clear Safe Vision to Your Workers

Here's the modern way to promote the wearing of Safety Goggles. Install K-LENS-M Lens Cleaning Cabinets with K-LENS-M Anti-Fogging Stations, endorsed by Safety Engineers, to provide clean, clear safety goggles for your workers. K-LENS-M Lens Cleaner and K-LENS-M Anti-Fogging Liquid are used by leading manufacturing plants, packing houses, canneries, public utilities, government installations and business offices.

EFFECTIVE ON PLASTIC OR GLASS. Easy-to-use and *safe.*

Economical K-LENS-M Liquid Lens Cleaner and Tissues are dispensed by a compact metal dispenser cabinet. Cabinet contains large bottle of K-LENS-M Lens Cleaner, also two packs of K-LENS-M lint-free lens tissues; is equipped with spray pump and lock, and has disposal space for used tissues.

Separate attachment for K-LENS-M Anti-Fogging Liquid easily attached to any metal K-LENS-M dispenser cabinet.

Easy to install, use and service.

Also available for off-premise use in individual pocket-size plastic "Twinkit", containing a bottle of K-LENS-M Lens Cleaner and a bottle of K-LENS-M Anti-Fogging Liquid.

K-LENS-M . . . Complete Lens Cleaning and Anti-Fogging Equipment

THE **WILKINS** CO.
INCORPORATED
CORTLAND 2, N. Y.

Manufacturers of

K-LENS-M

Liquid Lens Cleaner
Lint-Free Lens Tissues
Anti-Fogging Liquid
Dispenser Cabinets
Anti-Fogging Station

(For further details, use Key # D-2 on free Inquiry Card on page 81)

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we owe you
an apology!

We have always been proud of the speed and efficiency with which we serviced our customers, whether they ordered one pair or hundreds.

Then, last Fall, we ran an ad promising "same day shipment" on all orders received up to noon daily. We should have knocked on wood. Because the roof fell in.

We were literally deluged with orders . . . more orders than we could even write up, let alone ship. And as luck would have it, just before the ad appeared our factories signed a huge contract for the armed forces.

Between limited production and vastly increased sales, our deliveries ran weeks late. We want to assure you that your Lehigh representative has not been at fault. He complained more constantly and bitterly than you did. Yet, it was the greatest tribute to our company and our shoes that our customers beefed . . . as they should, and then waited.

We are "over the hump," now. Our deliveries, while not as prompt as they will be, have caught up with the backlog. We hope soon to reinstate "at once" service whenever you need it.

If you have been inconvenienced by delayed shipments in the past few months we owe you our most humble apology and our sincere thanks for your understanding and cooperation.

LEHIGH
SAFETY SHOE COMPANY
ALLENTOWN, PA.

(For catalog, use Key # D-44 on Inquiry Card on page 81)

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SAFETY MAINTENANCE & PRODUCTION

FORMERLY "SAFETY ENGINEERING"

The Magazine of Safety

A MONTHLY PUBLICATION DEDICATED TO ACCIDENT PREVENTION, MAINTENANCE, HEALTH CONSERVATION AND FIRE CONTROL FOR EFFICIENT PRODUCTION.
EST. 1901

VOL. 105, NO. 4 **APRIL, 1953**

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PICTURE CREDITS
Our Thanks for the Courtesy
Cover: General Motors Corp.

AMERICA'S PIONEER MAGAZINE IN ITS FIELD

SAFETY MAINTENANCE & PRODUCTION is indexed regularly by Engineering Index, Inc., New York

It's Safe to Say

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★ IN ANY LANGUAGE

ONE of the most powerful influences for accident prevention is the use of suitable safety or warning signs, at least one of which can be found for almost any hazardous operation. On the American market, we have signs to guard against fire, accidental injury to all parts of the body and for use in the presence of dangerous machinery or substances.

Fortunately, there is a relatively high degree of literacy in this country and our workmen have no difficulty in reading or absorbing the intended message and full meaning of a sign to guard them against danger. While safety signs are available on special order made up in different languages for the benefit of the foreign born, signs in English are usually adequate as we all speak, or soon learn, the same language.

Obviously, the danger is heightened when hazardous products are shipped for international trade because of the difficulties in language since warning signs in English lose much of their value for laborers in other countries.

The language barrier long has been a subject for study by the chemical industry whose leaders have recognized the need for standardizing classification and labeling of dangerous substances crossing from one border to another. Moreover, the need has been established for complete simplicity so that an illiterate laborer who cannot read any language can grasp at a quick glance the fact that he is in the presence of a product potentially dangerous.

That the cooperation of world leaders in international trade can make a tremendous contribution to human welfare is demonstrated by a case in point. After a study over a period of two years, the Chemical Industries Committee of the International Labor Organization at Geneva has come up with simplified warning signs and thus by-passed the language obstacle by approving labels without any words whatever. Heading a group representing ten different countries was C. C. Concannon, chemical chief of the U. S. Department of Commerce, now Chief of the Chemical Division of the National Production Authority.

In deciding upon a set of simplified warning symbols, the number was limited to five suggesting explosive, flammable, toxic, corrosive and radio-active substances.

Through the medium of simple line-drawings, the laborer can soon learn that: an exploding bomb represents explosive substances; a burning match means "flammable"; the skull of a skeleton indicates toxic substances; a bony hand such as that seen in viewing an x-ray picture signifies corrosive products; the skull and cross bones with the letter "R" warns against radio-active substances.

Each country would determine in its own way whether or not it will use the symbols in the labeling system adopted for domestic trade and of course a decision must be made concerning listing of the various dangerous commodities for which labels should be used.

Signs *do* point the way to safety! H.A.

WHEN YOU'RE SURE OF THE QUALITY YOU'RE SURE OF THE PROTECTION

Specify metal frame safety eyewear by Bausch & Lomb. There is none better designed, none better made. A few of the basic styles are pictured here. All spectacle types may be fitted with lenses ground to individual workers' prescriptions. Remember, your Bausch & Lomb supplier is thoroughly trained and experienced in solving eye protection problems. Write for catalog showing the complete line: Bausch & Lomb Optical Co., 90516 Smith St., Rochester 2, N. Y.

H-10 For general use in semi-hazardous areas. Non-corrosive white metal frame, drop oval 6.00D curve lenses, rigid double bridge construction, adjustable nose pads, flexible cable-type temples with sweatproof non-inflammable insulated covering. Available with Ray-Ban absorptive lenses.

J-11 Same as the H-10 (above) except fitted with non-corrosive wire mesh nose and side screens giving impact protection from every angle. Recommended for use wherever the impact hazard is greatest and most uncertain. Also available with Ray-Ban lenses where glare hazards prevail.

H-30 This is a special Hookover for wear over prescription safety lenses for the purpose of protecting and prolonging the valuable prescription lenses—particularly bifocals. The Hookovers are not supplied with hardened lenses. Available for safety glasses with or without side shields. Also in Ray-Ban.

M-50 Here is the Ful-Vue model in all-metal spectacle also available for use with hardened prescription lenses. Widely used indoors and out where adequate protection against frontal impact is needed, but where smart styling is also a desirable factor. Features similar to H-10 except bridge has auxiliary concealed reinforcement.

P-57 This is basically the M-50 frame (above) but with Ray-Ban lenses and green acetate side shields for use generally where protection is required from all-angle impact and from harmful rays emitting from welding arcs and other intense light sources. Ful-Vue temples permit unrestricted wide-angle vision.

1853/1953 INTO A NEW CENTURY OF OPTICAL PROGRESS
BAUSCH & LOMB CENTENNIAL

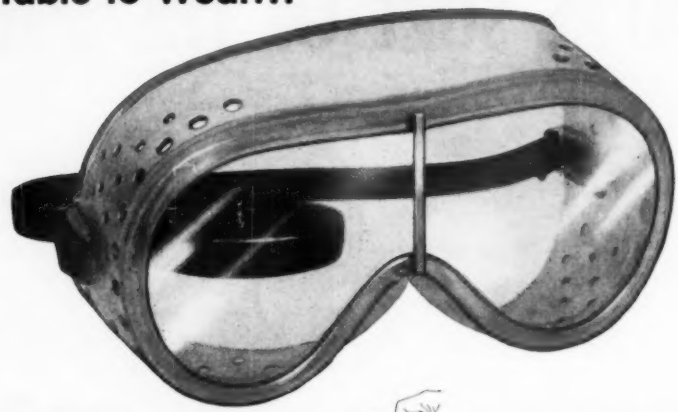
BAUSCH & LOMB *Safety Eyewear*

(For further details, use Key # D-3 on free Inquiry Card on page 81)

PUT THIS WATCHEMOKET eye SAVERS TEAM

Comfortable to Wear...

Model 440
COVER-ALL
For Complete Protection



SOFT VINYL FRAME — FITS OVER ALL PRESCRIPTION GLASSES

Extra-soft plastic frame with soft nose-flange fits snugly, yet comfortably, around any face contour—prevents foreign objects from entering in any direction!

6" WIDE REPLACEABLE LENS

The optically correct methacrylate lens provides full protection against extreme impact. Does not shatter. Lens is extra-wide (6") for picture-window vision, and is easy to replace. Improved metal lock bar holds lens tightly in frame. Frame acts as bumper to prevent scratching lens when laid face down.

VENTILATION AND COLOR STYLES

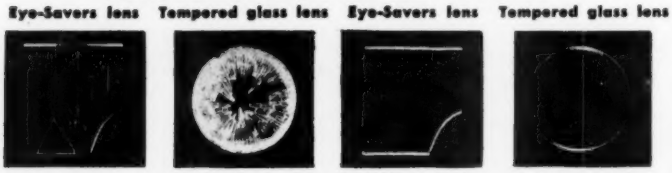
Screen ventilation shown in line sketch at left above; standard ventilation shown in photograph above. Lens colors: Clear or light, medium, and dark green.

EYE-SAVERS CAST METHACRYLATE

The perfect optical lens material that's SAFE

COMPARE EYE-SAVERS LENSES TO GLASS!

Eye-Savers lens | **Tempered glass lens** | **Eye-Savers lens** | **Tempered glass lens**



Resists impact up to 11.6 inch-lbs. average. Note clean fracture without tendency to splinter

Fractured at 72 inch-lbs. Note dangerous splinters which may aggravate injury if driven into eye.

Visibility is unimpaired through this optically-clear methyl methacrylate lens.

Note deep pitting. Visibility through this lens is seriously impaired.

IMPACT-RESISTANCE—Superior to Glass ***SPARK-RESISTANCE—Superior to Glass***

CHEMICAL and LIGHT RESISTANCE . . . Eye-Savers methacrylate lenses resist affects of chemical splashes as well as, or better than, glass. These lenses (even the clear lenses) filter out 96 to 100% of harmful ultra-violet rays, and green lenses filter sufficient infra-red rays for use in welding areas, but not for direct arc welding. Methacrylate optical qualities for clear, non-distorted vision are superior to most glass and all other plastics.

SAVE YOUR EYES WITH METHYL METHACRYLATE!

LOW COST MODEL 441 WITH ACETATE LENS

The same soft plastic frame with a laminated acetate lens gives light-weight flexibility for average impact. An ideal low cost unit for many eye hazards.

Keep a supply of these Eye-Savers handy. You'll have the correct eye protection for most job conditions.

Quality Eye Protective Equipment ***Made by the Leaders in Plastics***

WATCHEMOKET OPTICAL CO., INC.

225 West Exchange St.
PROVIDENCE 3, R. I.

In Canada: Levitt-Safety Limited, Toronto 10, Montreal 1

(For further details, use Key # D-4 on free Inquiry Card on page 81)

TO WORK FOR YOU!

Easy on the Eyes...

Tuc-Away
SPECTACLE
For Up To 90% Protection

FEATHER-LIGHT PROTECTION WORKERS LIKE TO WEAR!

Attractive Tuc-Away design and shatterproof methacrylate lenses provide sure safety for most eye hazards. Preferred by many because workers like to wear them! Feather-light construction and smart appearance promote worker cooperation. Universal nose-piece gives added comfort, eliminates extra size stock.

REPLACEABLE LENSES SNAP-IN: SNAP-OUT

Clear or colored lenses for the eye hazard are easily inserted and removed by the worker. Eliminates special repair departments.

RETRAX* TEMPLES FIT ANY FACE

Retrax* temples telescope in and out to any desired length for perfect fit. Eliminates the problem of individually fitting workers. Club temples also available. *T.M.

Put this team to work for you. Ask your safety supplier to show you samples of both these popular Eye-Savers!

SEMI-CUP LENS
Clear view 90% protection.

FULL 1" SIDE SHIELD
Clear view side protection.

REGULAR SIDE SHIELD
For average eye hazards.

Available in clear or light, medium, and dark green.

METHASPEC WATCHEMOKET eye SAVERS

SPECTACLE EYE SHIELD

SAFE · STURDY LIGHTWEIGHT

The low cost Methaspec is a curved one piece cast methacrylate (optically correct) eye shield providing excellent protection . . . ideal as visitors' goggles because exclusive features provide easy adjustment to fit any head. Retrax temples are adjustable for length, as well as lens angle, to fit comfortably close to the face. The opaque visor eliminates overhead or sun glare. Available in clear or light or medium green lenses.

Quality Eye Protective Equipment ***Made by the Leaders in Plastics***

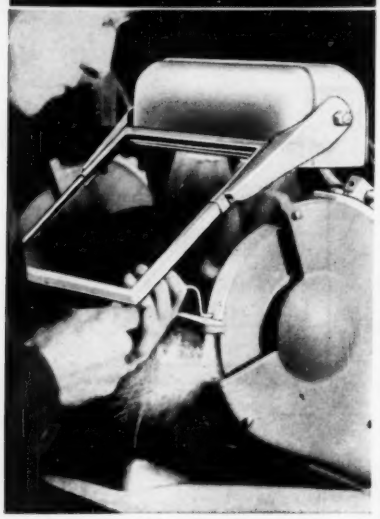
WATCHEMOKET OPTICAL CO., INC.

225 West Exchange St.
PROVIDENCE 3, R. I.

In Canada: Levitt-Safety Limited, Toronto 10, Montreal 1

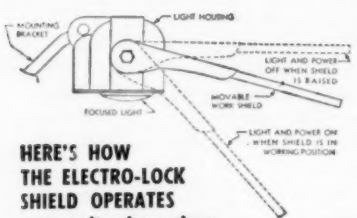
(For further details, use Key # D-5 on free Inquiry Card on page 81)

JUNKIN
ELECTRO-LOCK SHIELD



The Shield Which Commands Operator Safety

The position of the Junkin Electro-Lock Shield is controlled by mercury switches. Interlocking power and light circuits will not permit the machine to operate unless the shatter-proof shield is in a completely protective position. Affords perfect visibility, and protects the operator from flying particles. Write for free bulletin No. 103.


MOUNTING BRACKET
LIGHT HOUSING
LIGHT AND POWER OFF WHEN SHIELD IS RAISED
MOVABLE WORK SHIELD
FOCUSED LIGHT
LIGHT AND POWER ON WHEN SHIELD IS IN WORKING POSITION

HERE'S HOW THE ELECTRO-LOCK SHIELD OPERATES —permits clear view of work, still providing maximum protection

JUNKIN
ENGINEERED SAFETY

JUNKIN
SAFETY APPLIANCE CO.
101 S. FLOYD ST.
LOUISVILLE 2, KENTUCKY

(For further details, use Key # D-6 on page 81)

THE Future SHOWS

Kansas City, Mo. *April 9–11*

April 9–11. Central States Safety Congress (Hotel President). George M. Burns, Director, Kansas City Safety Council, 419 Dwight Bldg., Kansas City 6, Mo.

Indianapolis, Ind. *April 14–15*

April 14–15. Central Indiana Safety Conference (Claypool Hotel). Jack Gunnell, Indianapolis Chamber of Commerce, 320 N. Meridian St., Indianapolis 11, Ind.

Columbus, Ohio *April 14–16*

April 14–16. Twenty-Third All Ohio Safety Congress and Exhibit (Deshler Wallick Hotel). R. T. Spencer, Congress manager, Industrial Commission of Ohio, Columbus 15, Ohio.

Toronto, Ont. *April 20–21*

April 20–21. Annual Conference of Canadian Industrial Accident Prevention Associations (Royal York Hotel). R. G. D. Anderson, general manager, Industrial Accident Prevention Associations, 600 Bay Street, Toronto 2, Canada.

Niagara Falls, N. Y. *April 21–23*

April 21–23. Thirteenth Western New York Safety Conference (Hotel Niagara). Eugene C. Hohlstein, executive secretary, Western New York Safety Conference Inc., Buflovak Equipment Division, Blaw-Knox Co., 1543 Fillmore Ave., Buffalo 11, N. Y.

Grand Rapids, Mich. *April 21–23*

April 21–23. Michigan Safety Conference and Exhibit (Civic Auditorium). Elon J. Schantz, executive secretary, Consumers Power Co., 129 Pearl St., N. W. Grand Rapids 2, Mich.

Charleston, W. Va. *April 22–24*

April 22–24. Annual Conference & Exhibit West Virginia Safety Council, Inc. Mrs. W. C. Easley, 316 Masonic Bldg., Charleston, W. Va.

Bridgeport, Conn. *April 24*

April 23. Eighth Annual Connecticut Industrial Safety Conference (Hotel Stratfield). H. R. Erickson, manager, Connecticut Safety Society, c/o Chase Brass and Copper Co., Waterbury, Conn.

Phoenix, Ariz. *April 27–29*

April 27–29. Fifteenth Annual Western Safety Conference Inc. Conference and Exhibit (Hotel Westward Ho). H. E. Hodgson, secretary, 310 Luhrs Bldg., Phoenix, Ariz.

Pittsburgh, Pa. *April 28–30*

April 28–30. Twenty-eight Annual Western Pennsylvania Safety Conference & Exhibit. Harry H. Brainerd, executive secretary, 605 Park Bldg., Pittsburgh 22, Pa.

Baltimore, Md. *May 7–8*

Governor's Safety-Health Conference & Exhibit (Lord Baltimore Hotel). Joseph Haller, Director of Safety, State Industrial Accident Commission, Equitable Bldg., Baltimore 2, Md.

Roanoke, Va. *May 7–9*

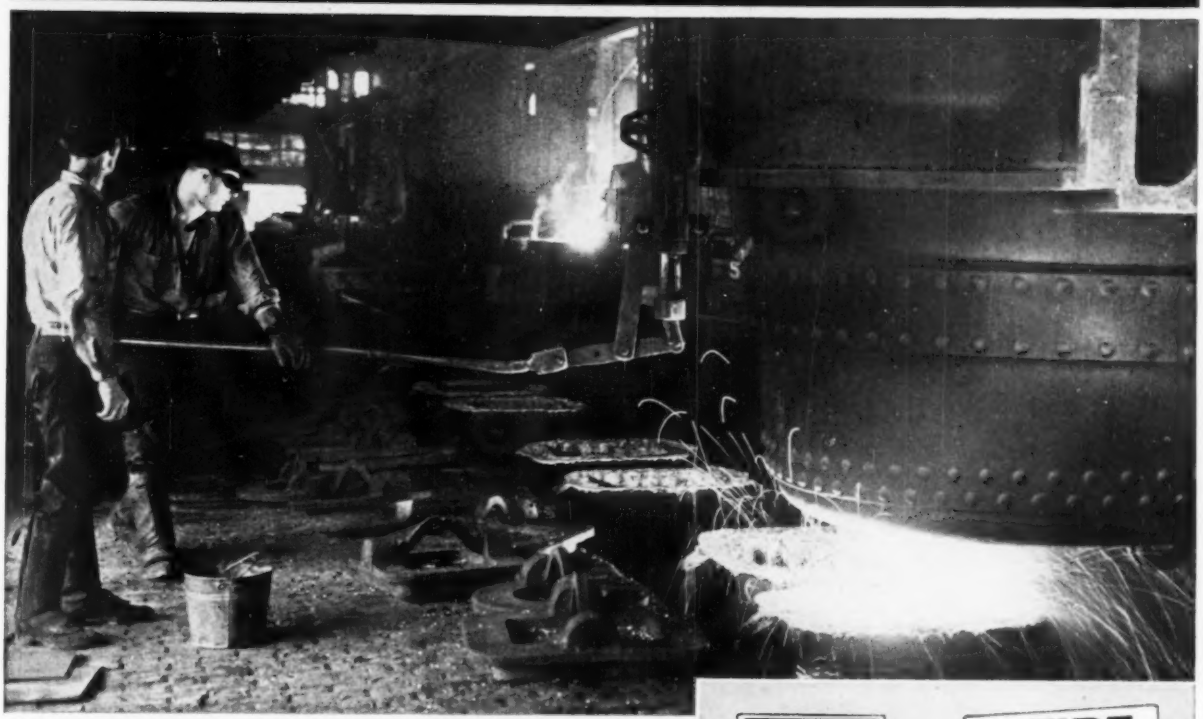
May 7–9. Nineteenth Annual Virginia State-wide Safety Conference (Hotel Roanoke). William M. Myers, managing director, Richmond Safety Council, 49 Allison Bldg., Richmond 19, Va.

Syracuse, N. Y. *May 11–13*

May 11–13. Central New York Safety Conference and Exposition (Hotels Syracuse and Onondaga). Walter L. Fox, Safety Division, Syracuse Chamber of Commerce, Syracuse, N. Y.

(Continued on page 10)

STONEHOUSE SIGNS For ACCIDENT PREVENTION



Pouring Molten Steel

High production is a fine goal. But with it goes the responsibility to protect and safeguard workers against the threat of accidental injury—even death.

Every production quota should include an effective safety program. It can be done with the help of

STONEHOUSE SIGNS

They work 24 hours a day...warning, educating, impressing upon workers the gospel of Safety.

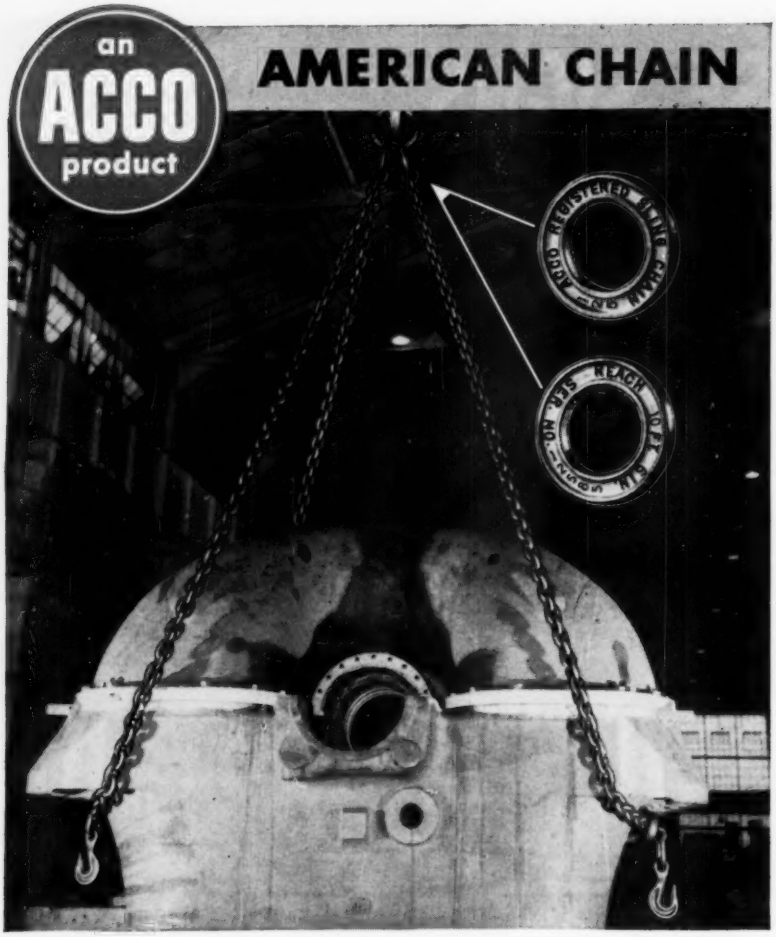
There are hundreds of different Stonehouse stock-worded signs for prompt shipment. Special wordings also produced as desired.

Have you our complete Catalog? It's free on request.

Stonehouse
SIGNS, inc. MANUFACTURERS • Stonehouse Bldg., 9th at Larimer
"Signs Since 1863" Denver 4, Colorado

ACCIDENT PREVENTION • *steel* SIGNS IN STANDARD COLORS AND DESIGNS

(For further details, use Key # D-7 on free Inquiry Card on page 81)



"Why do we use American Chain?"

"For two reasons," said this manufacturer of heavy machinery. "First, we have used American Chain successfully for years. Second, the high strength alloy it is made from permits using smaller diameter chain which is hooked up easily by our men. And the men like the way the grab hooks slip over the links and set themselves securely. I think they just feel safer working with American Chain."

This AMERICAN CHAIN user is referring to our 125 Endweldur alloy steel, heat-treated ACCO Registered sling chain with our series 40 drop-forged grab hooks.

No matter what chains you require, AMERICAN has them and will furnish chains that will last longer . . . and cost less to use. Call your AMERICAN CHAIN distributor today and let him make recommendations. Or write to our York office for **Bulletin DH-314.**

ACCO

AMERICAN CHAIN DIVISION
AMERICAN CHAIN & CABLE

York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

American Chain

(For further details, use Key # D-8 on free Inquiry Card on page 81)

The Future Shows

(Continued from page 8)

Winston-Salem, N. C. *May 13–15*

May 13–15. Twenty-third Annual North Carolina Industrial Safety Conference (Robert E. Lee Hotel). H. S. Baucom, safety director, North Carolina Industrial Commission, Raleigh, N. C.

Philadelphia, Pa. *May 18–22*

May 18–22. Fifth National Materials Handling Exposition (Convention Hall). Clapp and Poliak, Inc., exposition managers, 341 Madison Ave., New York 17, N. Y.

Duluth, Minn. *May 21–22*

Twenty-ninth Annual Conference, Lake Superior Mines Safety Council (Hotel Duluth). John A. Johnson, chief Accident Prev. & Health Div., Region 5, U. S. Bureau of Mines, 18 Federal Bldg., Duluth 2, Minn.

Chicago, Ill. *June 2–4*

June 2–4. Greater Chicago Safety Conference (Conrad Hilton Hotel). Joseph F. Stech, manager, Greater Chicago Safety Council, 10 No. Clark St., Chicago 2, Ill.

Harrisburg, Pa. *Sept. 16–17*

Pennsylvania Industrial Safety Conference (Hotel Penn Harris). Frank K. Bohl, deputy secretary, Dept. of Labor & Industry, Room 304 So. Office Bldg., Harrisburg, Pa.

York Harbor, Me. *Sept. 17–18*

Sept. 17–18. Twenty-Sixth Annual Maine State Safety Conference (Marshall House). A. F. Minchin, secretary, Industrial Safety Division, Department of Labor and Industry, Augusta, Me.

Chicago Conference

THE safety conference scheduled for June 2–4 at the Conrad Hilton Hotel will be known as the Greater Chicago Safety Conference. In former years, this meeting was called the Midwest Safety Conference.

In A Fire Emergency...

ALL HANDS ARE "SKILLED HANDS"

WITH **ANSUL** DRY CHEMICAL
FIRE EXTINGUISHING EQUIPMENT

With Ansul Extinguishers near-expert results are obtained by inexperienced operators. In fact, all Ansul Extinguishers are designed to provide a maximum of extinguishing effectiveness in the hands of inexperienced personnel.

This feature, plus benefits listed below, account for the outstanding preference for Ansul Equipment by fire protection men in all phases of American industry.

1. Water-tight construction throughout.
2. Easy on-the-spot Recharging (No tools needed.)
3. Quick, positive puncture operation.
4. Special cartridge guard protects cartridge . . . rugged construction throughout.
5. Ansul *"PLUS-FIFTY"* Dry Chemical used exclusively.
6. Corrosion resistant construction throughout.
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WILLSON PRODUCTS, INC., 207 Washington Street, READING, PA.

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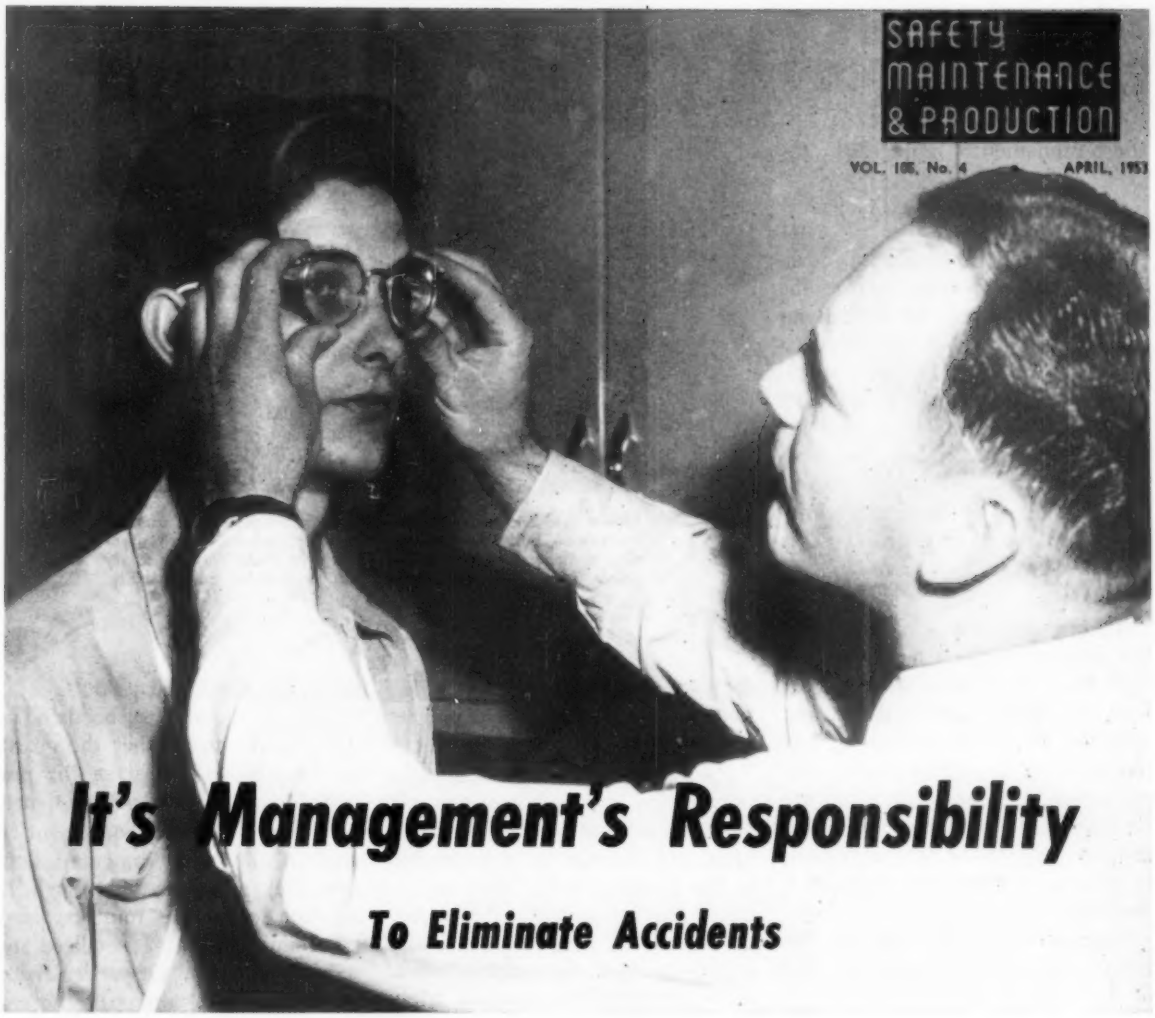


It's Management's Responsibility

To Eliminate Accidents

by DAVID T. MOULD
Safety Director
General Motors Corp.

IN discussing the promotion of a safety program, it is essential to distinguish between the fundamental principles of a safety program and the particular form in which the principles are applied. I should like to emphasize the fundamental principles and basic philosophy that have guided us in the development of our safety program.

These principles underlie any successful safety program:

1. Management must have a sincere interest in the safety of its employees. This interest must start at the top and pervade the entire organization. The spirit in which management approaches safety is of paramount importance.

2. Safety must be made an integral part of day-to-day operations. It cannot be a hit or miss proposition. We cannot emphasize safety on some operations and neglect it on others. Safety must be made the chief concern of every supervisor and every employee on all operations at all times.

3. To achieve success we must have the enthusiastic cooperation of employees. Regardless of any approach to groups of employees, our basic approach must be to the employee as an individual. It is the individual who works safely or gets hurt. It is the individual who must know how to work safely on his job and who must constantly recognize the importance to himself of working safely. It is the individual who must cooperate if the safety program is to succeed. He cannot delegate someone else to work safely for him.

4. We must have an effective safety training program for the supervisor. The foreman or other line supervisor is the member of management with the primary responsibility for making the safety program work.

5. There must always be an adequate, competent safety staff to assist the line organization in making the safety program effective. This staff provides the safety engineering knowledge, the technical assistance and the regular inspections which are essential parts of the program.

6. A safe plant is a plant where there is respect for discipline. I

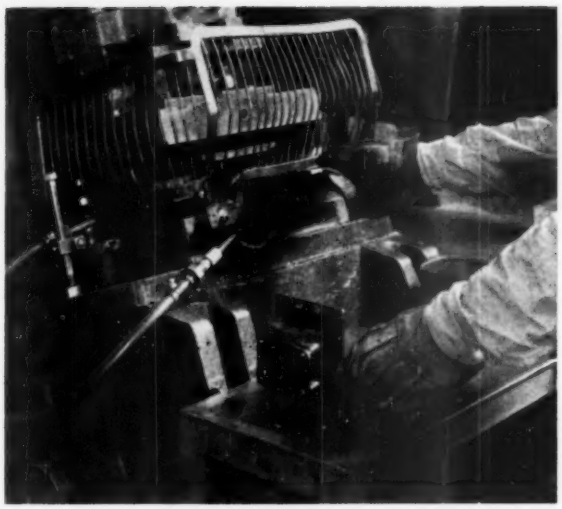
(Continued on next page)

mean discipline in its positive sense. Good discipline means order, it means working, cooperating and behaving in a normal way.

Here is how our company applies these fundamental principles.

Sincere Interest in Safety

Management from the top down accepts the responsibility for the safety of employees who work in our plants. We accept it not only as a legal responsibility, but as a moral obligation, as a duty. Our safety principles came into being not because they were put on the president's desk for signature by one of his assistants, but because he himself made a careful first-hand study of safety programs in a number of our plants.



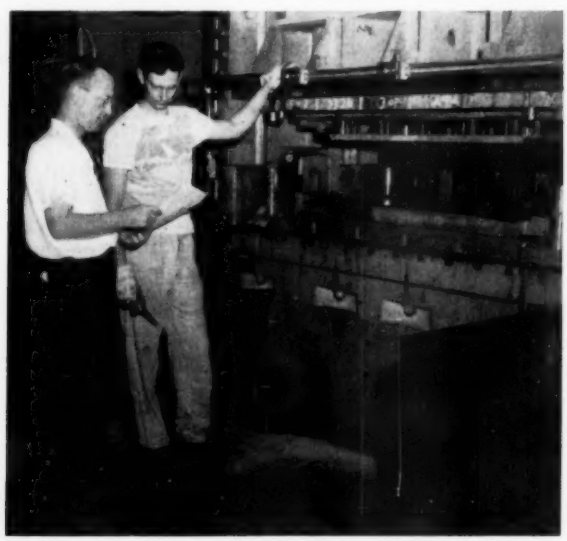
Shown here are some opportunities for management to exercise its responsibility for safety. Providing guards and protective clothing, and instructing workers in their use are safety needs for which management has a definite responsibility.

Throughout the company it is the practice for the general manager of a division to hold a meeting at least once each month to discuss the operation of the safety program. His top staff and the safety director are present at these meetings. They are held primarily to discuss safety, to lay out policies for safe operation, to review accidents that may have occurred and to plan for the prevention of such accidents in the future. It is then the responsibility of the various factory superintendents to hold meetings with their foremen to translate these policies into practice.

Safety of necessity must start on the drawing board. It is of vital importance that all safety features of tools and fixtures be incorporated in the drawings before they are released for production. When machine tools are purchased, it is also important that the safety department be consulted regarding safety devices. After equipment is in operation, there must be daily inspections to assure that the guards are in position and serve the purpose for which they were designed.

Properly guarded equipment is vital in the safety program; however, that in itself is not enough. In addition, employees must be properly trained in both generalized and specialized safety. Of particular importance is the training of the employee in safety on his own job. The need for this training is borne out by the fact that *the majority of industrial accidents are still due to unsafe acts rather than mechanical failures.*

In our company this specialized training is accomplished by enlisting the aid of supervisors and experienced employees in compiling recommended safe practices for every occupation in the plant. These safety standards are used by the supervisors in their daily contacts when training both new and old employees for a specific job.



Every day foreman spends 5 minutes apiece with two individual employees in personalized safety instruction and discussion. This informal contact, pictured here, is one of management's best ways of getting across safety to employees.

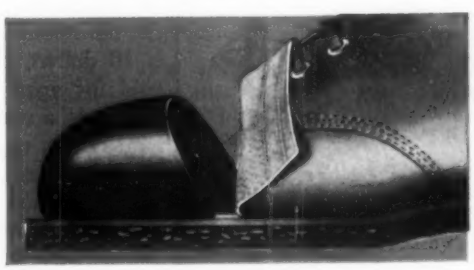
Cooperation of Employees

If there is any secret to the success of a safety program it lies in the emphasis placed upon the safety relationship between the foreman and the individual employee. The

These Two Safety Work Shoes are identical except-

one is 45+% STRONGER

Your workers' toes will have 45+% more protection when you select the shoe on the lower right. This safety shoe contains WINGUARD 500 — the *safest* steel toe — designed to give maximum protection and comfort. WINGUARD safety steel toes were recently subjected to both compression and impact testing by one of the country's leading metallurgical testing laboratories and conclusively proved to average 45+% stronger and safer than non-WINGUARD steel toes otherwise identical.



WINGUARD 500 — for the rough and tumble work shoes that have to fight back against heavy odds. Its wings — secret of its greater strength — brace the steel toe against rearward tilting under impact. Its added supporting surfaces resist outward spreading under critical pressure.

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Ply-Garb is fashioned from revolutionary *new* plastic weaves, *Dynel, Vinyon* and *Orlon*. All garments lockstitched, sewn with synthetic, acid-resistant thread. Also available in plastic films, plastic coated cloth and asbestos-aluminum combinations.

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Management's Responsibility (Cont'd)

new employee must receive proper initial instructions in regard to safety. This is essential but it is not enough. There must be a continuous program to keep alive the employee's interest in safety.

We make it a practice to have each foreman talk about safety with 2 of his employees individually each day for at least 5 minutes. This gives the foreman an opportunity to discuss safety on the job as it relates to each employee. The foreman emphasizes points of special importance to the particular employee. The employee, in turn, has an opportunity to raise questions on any phase of his job which he does not understand. He can make informal suggestions on ways to improve the safety of his job.

Suggestion Plan

There are other ways of arousing the interest of the employee in his part of the safety program. We do it by encouraging the individual to submit suggestions through a formal suggestion plan. Suggestions accepted and put into operation bring a monetary award to the employee.

Suggestion programs have been in effect in many of the company's plants for 25 years or more. The corporation-wide program was placed in operation in 1942. During the period of 10 years, 207,850 suggestions have been accepted and more than 9 million dollars have been paid out in awards. Although the minimum award for suggestions is 10 dollars, considerably more is paid for many good safety suggestions. As a matter of fact, 1 thousand dollars each has been paid for several suggestions in recent years. It is estimated that more than 25 percent of the total number of awards were for safety suggestions.

The interest of the individual employee is further encouraged through the training program in first aid and artificial respiration. This program is offered to all maintenance employees, to plant protection men, the safety staff, the supervisory organization and any other key employees where appropriate. The main objective is to be sure that in every department, on all shifts, there will be an employee competent to render assistance to a fellow employee in an emergency until the doctor reaches the scene.

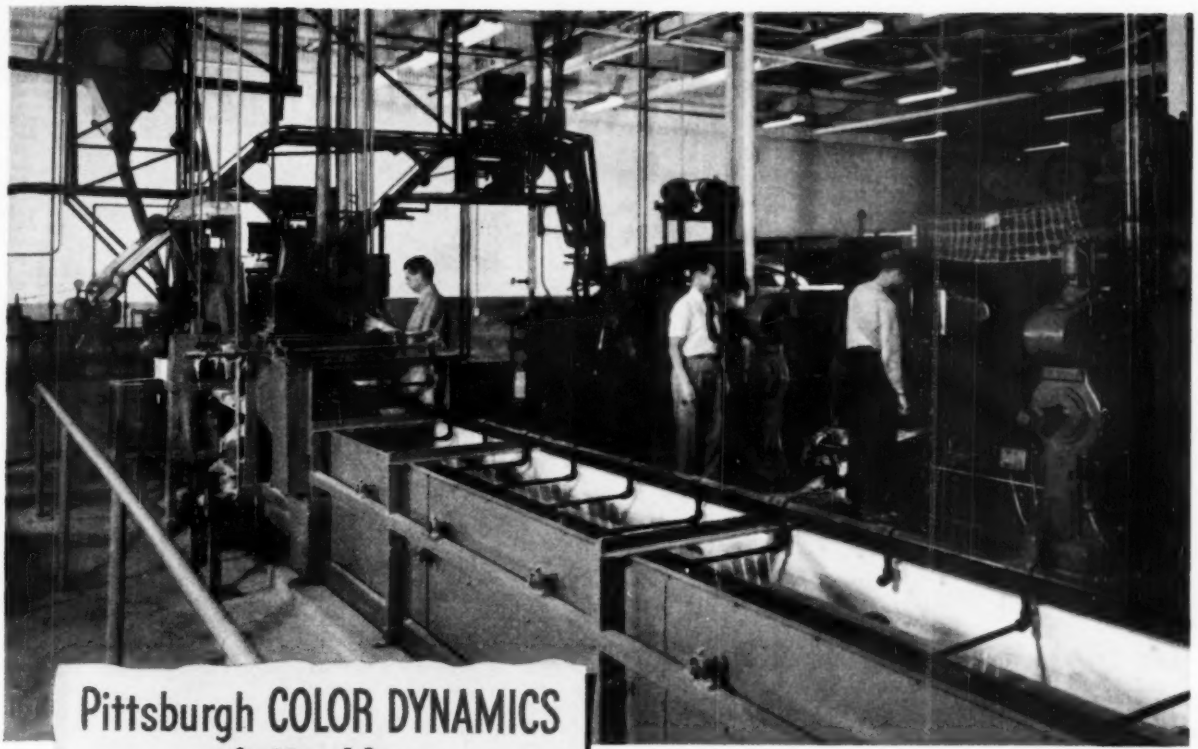
This first aid training pays off. In one plant, for example, an electrician's hand came in contact with a 440-volt line. He was knocked unconscious. His foreman grabbed the insulated portion of the wires and pulled them away. The foreman and a fellow employee then took turns administering artificial respiration. Within a few minutes a general foreman and another electrician were alternately aiding them. Within fifteen minutes the employee regained consciousness and eventually recovered. What makes this remarkable is the fact that the unconscious man was 62 years of age and that all 4 of the employees who cooperated in reviving him had received first aid training under the program in effect in that plant.

This type of employee cooperation is encouraged by awarding a special citation and a gold watch to employees who have been instrumental in saving the lives of fellow employees. It is rather gratifying to know, for example, that 60 employees are alive and on the job today because, in the last 8 years, 99 fellow employees were able to save them from almost certain death.

For years the company has recognized the importance of foremanship training. Safety has always had an important part in that training. A revised training program in plant safety, which consists of an 11-hour course, has been presented to more than 12 thousand foremen.

Adequate Safety Staff

One of the fundamentals in the safety program is that each plant must have an adequate safety staff. While we rely upon the foreman to carry the primary responsibility, and encourage the participation of employees, this alone is not enough. The line organization has a right to assistance from the safety staff. They are devoting *(To page 45)*



Pittsburgh COLOR DYNAMICS is Used by GOODYEAR to Reduce Eye Fatigue

Color is put to work in world's most modern tire plant in Jackson, Michigan, to make working conditions more cheerful and pleasant

FAR-SIGHTED executives in many industries are now making Pittsburgh COLOR DYNAMICS an important part of their operations as they are becoming increasingly aware of the fact that eye fatigue often slows down production even more than physical fatigue.

● **When material** the operator is working on is too similar in color to that of his machine, his eyes grow weary, just as the muscles of an arm tire when they are kept tensed for long periods. Needless eye effort is required to differentiate between machine and materials.

● **Eye fatigue** often leads to headaches and other ailments. Absenteeism and accidents are likely to increase. Production efficiency and morale may be adversely affected. One objective of COLOR DYNAMICS is to reduce the causes of eye fatigue.

● **When you paint** the COLOR DYNAMICS way you use *eye-rest* colors for surfaces the operator sees when he glances up from his work. Their chief purpose is to give him a few moments of eye relaxation.

● **An excellent example** of eye-rest colors used according to the principles of COLOR DYNAMICS is the Jackson, Mich. plant of The Goodyear Tire and Rubber Company in which tires and tubes are manufactured for use as original equipment of new automobiles.

● **Here is the comment** of E. T. Ruffner, Plant Manager, on his experience with eye-rest colors: "Three years ago we painted our plant according to COLOR DYNAMICS. Our aim was to lessen eye fatigue among our workers. So completely satisfied are we with the results that we plan to repaint the same way in the near future."

● **COLOR DYNAMICS** has proved similarly successful in hundreds of other important industrial plants and commercial structures. It has earned this acceptance because it improves production efficiency.

● **Why not test** the practical value of this modern painting method in your plant? Use it on a machine or two, or in a completed department, and see the difference it makes in your output.

COLOR DYNAMICS Engineering Study of Your Plant—FREE!

● For a complete analysis of the service COLOR DYNAMICS can perform for you, send for our *free*, profusely illustrated booklet. It explains simply and clearly how to put color to work on machines, walls, floors, ceilings and mobile equipment. Better still, let us show you exactly how to apply it in your plant. We'll be glad to submit a color engineering study of your entire factory, or any part of it, without cost or obligation. Call your nearest Pittsburgh Plate Glass Company branch and arrange to have our COLOR DYNAMICS representative see you at your convenience. Or mail this coupon.

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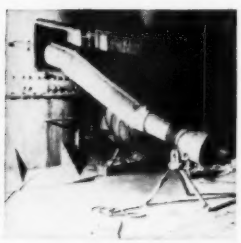
- *Comfort*
- *Efficiency*

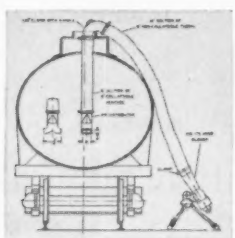
VANO® Design "A" VENTILATOR

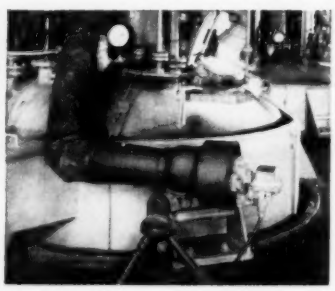
Vano Design "A" cooling interior of furnace, supplying fresh air through 10 feet of "Ventube" to provide safety and comfort during repair work.



Vano Design "A" delivering fresh air to cable manhole, expelling sewer gas, making entrance safe in a few minutes.

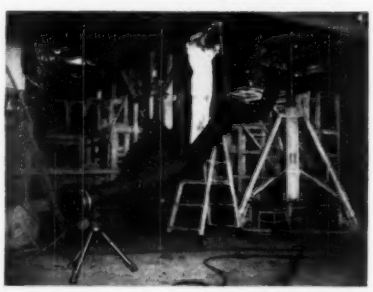
Vano Design "A" Ventilator plus a few accessories feeds large air volume into tank car, driving out fumes, stagnant or hot air for workers' safety and comfort.





Vano Design "A" supplying fresh air in Reactor Room of Synthetic Rubber Plant.

Vano Design "A" Ventilator supplying fresh air to men working in wing compartments, fuselages, etc.



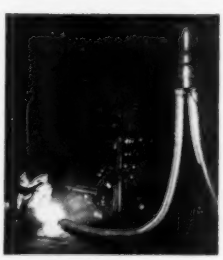
Powered by a ½hp motor, and equipped with the exclusive Coppus axial-flow propeller-type fan, this general-purpose blower delivers 1500 CFM of fresh air. It supplies ventilation for tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments and fuselages, and other confined places. Weighs only 103 lbs. Uses 8"-diameter flexible canvas tubing ("Ventube").

VANO DESIGN "C"

VENTILATOR-EXHAUSTER

Vano Design "C" equipped with 8" discharge tubing removing welding fumes.

Vano Design "C" equipped with two suction lines removing welding fumes for operators' safety.



For withdrawing welding fumes from confined places or directly from the welding rod ...or for expelling fumes or hot air from enclosed vessels. You can get it with 8" suction inlet for 8" non-collapsible tubing ...or with multiple inlet nozzles for 5", 4" or 3" suction hose. The discharge outlet takes 8" "Ventube". Powered by a ½ hp motor, it weighs only 85 lbs.

COPPUS ENGINEERING CORP., 324 PARK AVENUE, WORCESTER 2, MASS.
Please send information on the Blowers that clear the air for Action.

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- ☐ in aeroplane fusilages, wings, etc.
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CITY .....

COPPUS "BLUE RIBBON" PRODUCTS—*Designed for Your Industry, Engineered for You*

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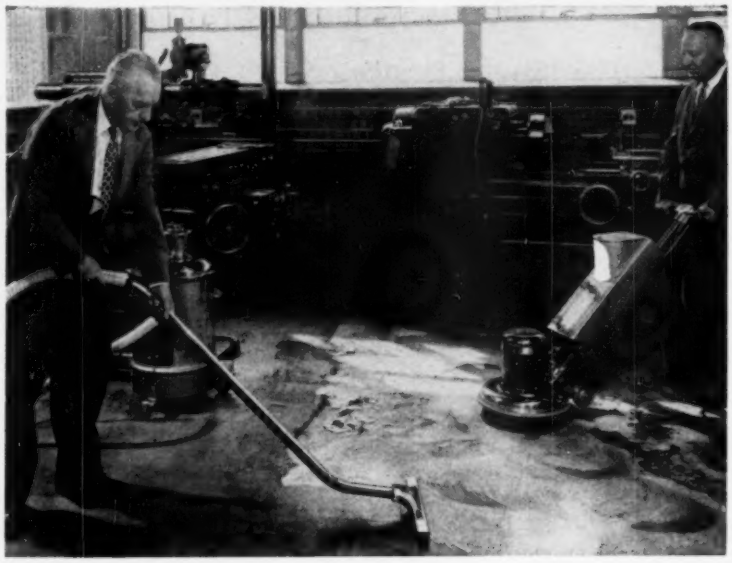
"Safety Maintenance" Salutes a Safety Idea

Pictures by courtesy of Cincinnati Gas & Electric Company.

MODERN LIGHTING ELIMINATES STAIR FALLS

THESE before and after pictures show how proper lighting can rid office buildings of a common and needless hazard—dark and dangerous stairways. A person coming out of a brightly lighted office into the dark stairwell at left has difficulty in focusing his eyes, and the danger of falling is increased many times. In the picture at right specially designed fixtures increase the overall lighting intensity 5 times, and make the stairs as bright and easy to see as objects in a properly lighted office. At the same time the fixtures have a special finish to reduce all glare. Abrasive strips of a contrasting color also are installed on the stair treads as an additional safety measure.

This "changed-for-safety" stairway is in the Cincinnati Gas & Electric Company's central office building, as the result of a survey conducted by William J. Easton, Director of the company's accident prevention division of the Industrial Relations Department. This survey proved conclusively that improved stair lighting would reduce considerably or eliminate "fall accidents." The company's lighting division acted on the recommendations of the accident prevention division and designed the new light fixtures. The company's property department immediately installed them. This is another example of cooperation for safety.



Scrubbing machine cleans factory floor and vacuum removes dirty soap and water.

WHAT

FEATURE

Third of a series of features on Floor Maintenance. Next article in May issue.

JAMES V. CONNELL
Hild Floor Machine Company
Chicago, Illinois

IN barber-shop harmony the "good old days" sound very pleasant, but as far as floor-cleaning is concerned they were anything but that. Floor-cleaning in the "good old days" was a hard and disagreeable chore; and, too often the results obtained with the "good old methods" were scarcely worth the effort required to produce them. Aside from the effort expended, thousands of square yards of floor coverings were ruined in the process. More floor-coverings were washed away than were worn away.

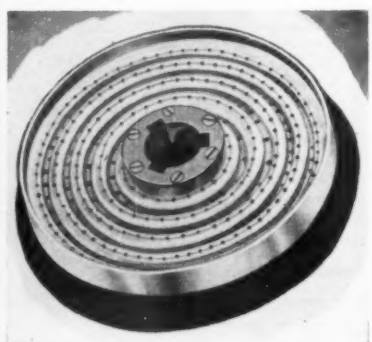
As so often happens, hard work stimulated a search for easier methods. Someone devised a machine of sorts, so that some of the drudgery of a back-breaking job might be eliminated. Thus the first floor-scrubbing machine came into existence and the merit of mechanical cleaning is attested to by the growth of the floor machine industry.

Today mechanical equipment for proper floor maintenance is available in many sizes and styles. Interchangeable attachments for these floor machines are also available. In addition the industry is prepared to offer expert advice on the proper method of cleaning and maintaining every known type of floor or floor-covering.

Types of Floors

What do we mean by "floors" and "floor-coverings"? By "floors" we mean concrete, wood, terrazzo or any solid substance not covered with another material. "Floor-coverings" are linoleum, asphalt tile, rubber tile, cork, etc. This category also includes rugs and carpeting of every style and quality.

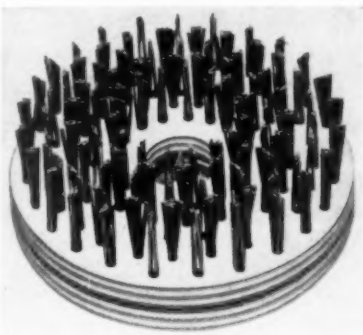
The washing of concrete and terrazzo floors is accomplished by a combination of machines. A heavy-duty scrubbing machine, with a stiff fibre brush and a tank for the cleaning solution, gets the dirt off the floor; and a vacuum device sucks up the soap and water, allowing the floor to dry quickly. *(To page 22)*



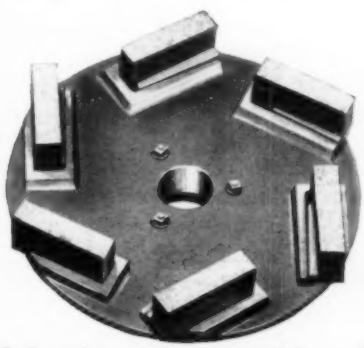
For wet scrubbing of all kinds of floors and shampooing carpets, this brush feeds cleaning solution gradually between the bristles.

Sandpaper disc sands wood or cork tile floors. By substituting steel wool pad attachment can be converted to steelwooling.

FLOOR MACHINES DO FOR FLOORS

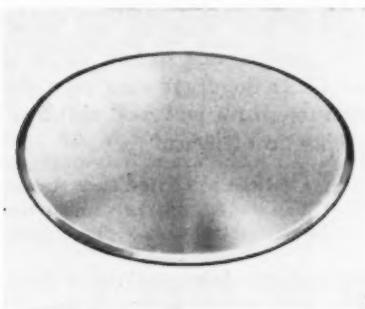


Scraper dry-scrubs wood block and concrete floors, removing hard-caked dirt and grease without marring the floor's surface.

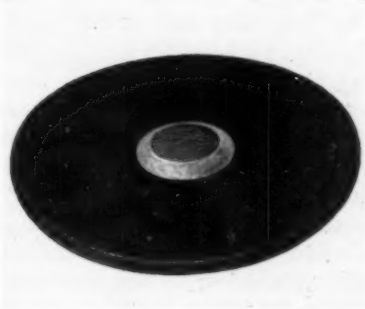


Carborundum grinding disc polishes and grinds marble and terazzo floors. For heavy cutting 3 of the stones can be removed.

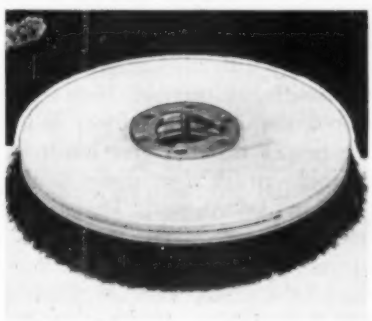
Steel wool pad cleans and waxes, removes excess wax or seals, burnishes-in, wet scrubs, and wet buffs penetrating seals thoroughly.



Attachment for trowelling freshly laid concrete has many advantages over the much slower hand method of trowelling concrete.



Lambs wool buffer can polish wax floors and baseboards. Also available in felt, buffer reaches hard-to-get-at places easily.



Polishing and scrubbing brush can also wax floors. Bassine, palmetto and steel bristles available for different kinds of floors.

Floor Machines (Cont'd)

Maybe your problem is a lot of plain dirty wood flooring. This situation too calls for wet-scrubbing and here too the same combination of machines is recommended. The scrubbing machine permits the use of just as much, or just as little water, as is needed for the particular job. The vacuum machine removes the dirty water and sediment from the floor, even pulling it right up out of the cracks in the floor. There are several methods of preserving such a floor. In some cases a penetrating floor seal is recommended; in other cases, a surface seal is the best solution. It may even be that a wax finish will prove most satisfactory. A floor machine will apply any of these materials.

Let's say that the floors in your home, office or business establishment are a natural grain wood, such as oak. It may be conventional strip flooring, pegged plank type, block type or parquette. All of this flooring can be cleaned, re-waxed and polished with a floor-machine, steel wool, spirit wax and paste wax. Water should not be used on this type of floor.

Varnish Removal

Then there is another "old floor" problem that has always been a nuisance. You may have a perfectly good floor, level and with no "cupped" boards (boards that have a concave appearance). The problem is that over the years so much varnish has been applied that the floor has changed color. How to remove the old varnish—without the mess, dirt and danger usually associated with the job? Here again a floor machine is called for. With the proper material and brush all the old varnish right down to the wood can be removed. There is no dust or danger of fire because the vacuum dust collector on the floor machine removes most of the dirt and dust as it sands. The old varnish can be swept up with a broom. Edging floor machines are also provided to do away with hand sanding corners and areas near the baseboard. The finished work blends with the sanding job of the larger machine.

Floor Covering Maintenance

It may be that your floors are covered with one of the "resilient" materials, such as linoleum, rubber tile, asphalt tile, etc. When these materials come from the factory they have what is known as a "plate finish," similar to the finish on china plate. The problem is to preserve this finish as long as possible. This can be done by using a floor machine with the correct attachments and proper materials, and an intelligent method of maintenance. There is no need for floor-coverings to look wornout for lack of proper equipment and maintenance.

However, you may be confronted with floor-coverings that have been abused through improper maintenance. The original surface may be gone, the colors may be faded, and in some instances the colors may "bleed" when plain water is applied to the floor. Unless the flooring is gone beyond redemption it is possible in a great many cases to restore and revitalize it for years of useful service. The cost of the equipment and materials is more than paid for by this prolonged floor life. The equipment continues in use to maintain the restored flooring properly and to prevent a recurrence of the neglected condition.

Rug Cleaning

Machines for maintaining rugs and carpeting are widely used. Vacuum machines for regular cleaning are available. For more thorough cleaning, shampooing machines, using foam mixtures; and vacuum equipment, to remove all moisture, are commonly recommended. There is also a rug-beating machine for getting out embedded dirt not touched by shampooing or vacuuming. This machine is furnished with a vacuum dust collector which keeps the operation clean and safe.

Have you ever noticed that some floors, from a distance, look as though they were well maintained, but when examined closely an unsightly build-up of wax or undissolved soap-film appears on the surface? There is no need for this situation. Traffic lanes require attention, and additional waxing from time to time, but it is not necessary to wax the entire floor when the traffic areas are cleaned. When the floor is polished the entire area will usually blend perfectly.

Caked Grease

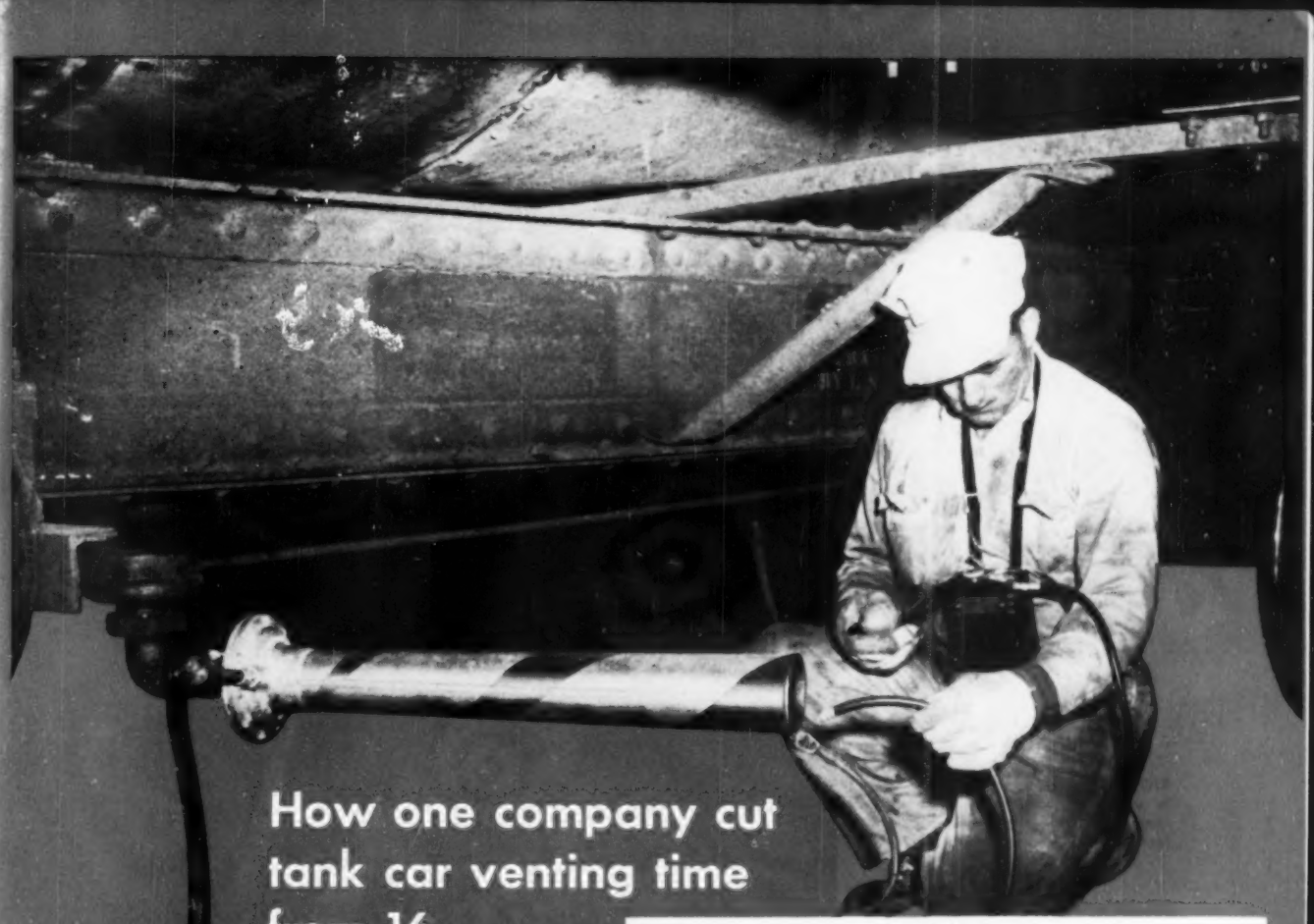
Another condition often found on floors in industrial plants, is heavily caked grease and dirt. This soil piles up into a rubber-like substance and slows up production. It is always difficult, and sometimes impossible, to push or pull a loaded truck over such a floor. The problem here is to remove the accumulation quickly and thoroughly, without resorting to hand scraping. A floor machine of the right size, equipped with a heavy steel wire brush is often efficient for this job. The brush cuts off the grease—dry. It is then swept up with a broom.

Interchangeable attachments make one floor machine suitable for many jobs. To mention just a few: there are attachments for polishing and waxing floors, buffers and soft bristle brushes, devices for steel-wooling, wet scrubbing, dry scrubbing, sanding wood floors, and polishing and grinding stone floors as well as for trowelling fresh concrete.

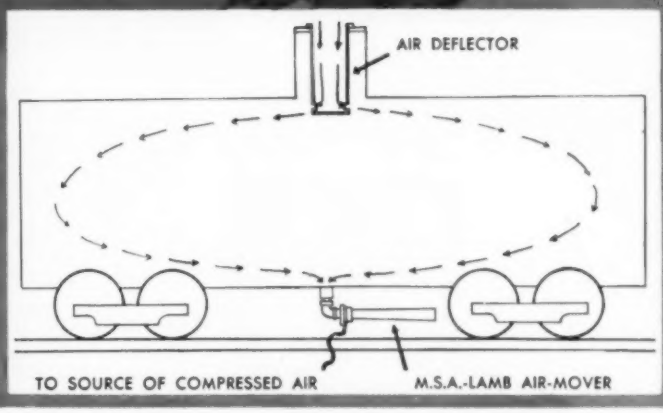
With the continuing development of floor machines and better floor maintenance techniques, it is not likely there will ever be a cry for a return to the "good old days" of floor maintenance.

Pictures by courtesy of Hild Floor Machine Co.

For detailed descriptions of flooring machines and floor maintenance products see pages 321–345 of Best's "Safety and Maintenance Directory" 1952–53 edition.



How one company cut tank car venting time from 16 to ONE hour . . . safely . . . with M·S·A Equipment



Knocking fifteen hours off the job time for freeing tank cars of explosive vapors and gases and bettering the safety factor at the same time might sound like magic, but it's just routine practice for a large gasoline manufacturing company.

The line drawing above diagrams the how-it's-done story. An M.S.A.-Lamb Air-Mover is connected to the bottom outlet of the tank car. Compressed air, forced through the "bell," expands at high velocity and produces a powerful suction effect. Air is sucked into the tank through the dome opening where a special deflector directs the air stream to both ends of the tank. Vapors and gases are gathered up and exhausted through the outlet horn of the Air-Mover. The expelled air stream is tested at 5-minute intervals with the M.S.A. Explosimeter, a portable device for detecting the lower limits of combustibles. Venting is continued until the Explosimeter reading is zero.

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(For further details, use Key # D-14 on free Inquiry Card on page 81)

RIGHT—Illustrated is a typical case in which a unit-type first aid kit is required. Field industries have no factory first aid room to use.

BELOW—Pictured here is a standard 16-unit size first aid kit.

INCREASED safety consciousness in industry has brought an increasing demand for more efficient first aid facilities. Medical and safety personnel today place great importance upon their first aid procedures, which serve both their companies and employees in combating the hazards of personal injury.

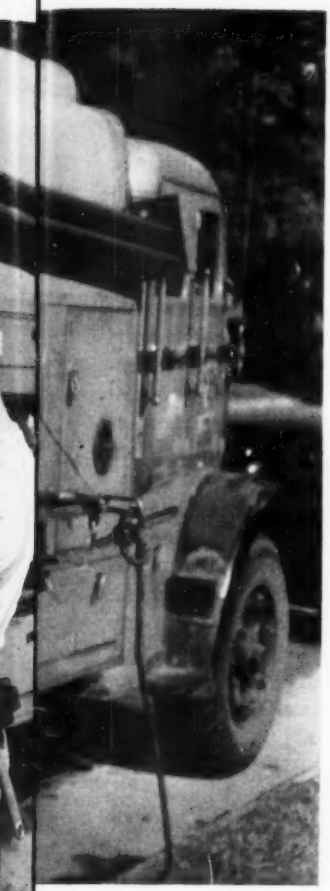
To make first aid facilities most effective it must be determined where first aid supplies should be available, and what they must consist of to cope with prevalent hazards. Each industry has its own types of potential injuries, and careful selection should be made of items necessary to provide proper first aid in each case.

The great majority of large industrial plants are equipped with first aid stations under the direct supervision of medical personnel. This first aid set-up makes it easy to institute first aid practices to give maximum protection. However, when industries engage in field operations, or their operations involve scattering personnel and equipment, the first aid room must be complemented with additional equipment. Included in this kind of industry are public utilities, air lines, construction companies, oil operations of all types, logging, mining, transportation, marine and federal, state, and municipal operations.

The development and control of an efficient system of first aid for these industries requires equipment that is mobile, easy to use, practical to maintain and sturdy enough to withstand existing conditions. While bulk-type first aid is satisfactory for centralized use in most cases, it does not meet the requirements usually necessary for efficient field use. Unit-type first aid, on the other hand, is designed primarily for field use. It has been adopted on a wide scale for a small number of workers in a group, small groups detached from a central location, groups or individuals working in isolated areas where immediate medical attention is not available, and crews on mobile equipment of all types.

Unit-type Kits

Unit-type first aid kits have been standardized by the division of simplified practices, U. S. Bureau of Standards, in cooperation with industry, into 10, 16, 24, and 36 unit sizes. The kits themselves are con-



FEATURE

First in a feature series on First Aid. The next articles in May and June.

FIRST-AID IN THE FIELD

By R. P. WHITNEY
Medical Supply Company
Rockford, Illinois

structed to withstand the extra wear and tear found in outside operations. They are made of heavy sheet steel, are equipped with mounting brackets and carrying handles, and are rendered dust and moisture proof by the use of positive-seal rubber gaskets.

The contents of unit-type first aid kits are further standardized into uniform unit size packages, which contain individually packaged items for single application. There are basically 3 sizes of unit packages—single, double, and triple. A 24-unit first aid kit will accommodate 24 single units, or multiples of any of the 3 combined sizes. The size of unit-type first aid kit needed is largely determined by the number of persons to be protected, and the nature and frequency of injuries likely to be encountered. The kits should be conveniently located so all personnel have easy and quick access to them. Generally, a 24-unit kit may be considered ample for 50 persons.

Each unit first aid package contains one or more individual treatments for one time use only. Materials can be maintained in a sanitary condition, and there is no deterioration of the dressings or treatments during periods of infrequent use. The materials are packaged to give the utmost protection against spillage and breakage. These combined features are assurance the materials will be in top condition when and where they are needed.

The selection of specific items needed from the more than 100 available items should be made by medical personnel, or others who are qualified to make such decisions. In any event, the person who makes these selections should be thoroughly familiar with all medical department preferences and procedures. This will enable the first aid treatment to be coordinated with later professional medical treatment. In many companies the physicians prescribe the same burn first aid treatment as is used in later treatment. State, federal and municipal agencies often specify particular assortments of unit materials for various industries. In such cases, the materials have been pre-selected by qualified personnel who have made special studies and surveys of conditions and hazards. It is important that unit-type first aid kits comply with all existing rules and regulations.

First-Aid Items

Basically, unit first aid items may be divided into three separate groups. They are (1) general, (2) general preference and (3) specialty. Local conditions, preferences and procedures will largely determine which items are deemed necessary. However, a well-balanced first aid kit will almost always contain unit items from the first two

(Continued on next page)

Diamond-back rattlesnake strikes as telephone lineman steps on it. Poisonous snakes are a hazard to industries with field operations all over the country.

Fellow-worker applies suction treatment to lineman's leg. This important aid for snake bite may have to be kept up 15 hours. Note tourniquet on man's leg.

groups, and quite often items of a specialty nature.

The first, or general group, includes such unit items as adhesive bandages, gauze bandages, bandage compresses, ammonia inhalants, gauze compresses, triangular bandages, adhesive tape, tourniquets, forceps, scissors and wire splints. These items fall in this general classification, since they may be considered identical or standard items supplied by all unit first aid manufacturers. There is usually no element of choice involved in selection of these items, beyond a preference for one particular item.

The second, or general preference group, includes such items as antiseptics, burn first aid treatments, and eye treatments. The list of the available commercial brands for any of the above items is very lengthy, and it is with this general preference group that medical personnel exercise the greatest selection. Unit first aid manufacturers package a great variety of products, in order that each user can have the greatest possible variety from which to choose. However, regardless of the particular medication selected, packaging is almost always standard throughout.

In various sections of the country, there are local conditions or hazards which create a need for the third, or specialty group of items. In such instances, these specialty items are used to complement the standard unit first aid system. They include treatments for plant poisoning, insect repellents, snake bite first aid kits, and burn spray first aid kits.

Poisonous Plants

In almost every section of our country, there are one or more species of poisonous plants. The three major classifications of these plants are poison ivy, poison oak, and poison sumac. Poison ivy and sumac in one or more of their various forms may be found in practically every section of the country. True poison oak is largely a west coast plant. Incidentally, it is in no way related

(Continued on page 28)

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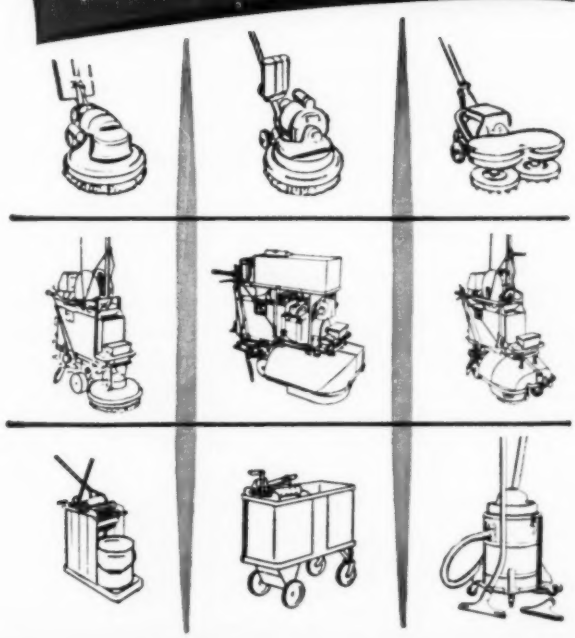

However much a maintenance man may want to do a good job, and at the same time show savings in labor costs, he's *stymied* if the machine is too small, or too large, or is otherwise unsuited to the job. Different floors and areas call for different care and equipment. That's why *Finnell makes more than a score of floor-maintenance machines.* From this complete line, it is possible to choose equipment that is correct in size as well as model . . . that provides the maximum brush coverage consistent with the area and arrangement of the floors.

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to the family of oak trees. It is very important that personnel operating in areas infested with poisonous plants be taught the right methods of identification, for safety records show that many valuable man-hours are lost each year to plant poisoning.

Recently a survey was conducted among a large group of safety personnel to determine the average ability to recognize poisonous plants. The 3 common poisonous plants were displayed, along with the 3 non-poisonous plants which are most often confused with the poisonous. Less than 12 per cent correctly identified all 3 poisonous plants, 20 percent correctly identified 2 of the plants, 32 percent identified only one plant, and 36 percent could not identify any of the poisonous species. This survey indicates that at least 68 percent of those who participated in the program are not safe in their own back yards. This is why it is important to be certain unit first aid facilities contain effective treatment for plant poisoning when the hazard exists.

Snake Bite

Practically anywhere in the country where workers go into rural or sparsely settled areas, they run the risk of being bitten by a poisonous snake. One or more of the 17 varieties of poisonous snakes native to the United States are found in every part of the nation. Snake bite usually occurs in isolated areas where medical attention is not readily available. Proper first aid treatment for snake bite is essential for it is one of the most dangerous and deadly hazards.

When a poisonous snake strikes, suction treatment must be applied immediately and maintained up to 15 hours for about 15 minutes of each hour, or until the services of a physician can be obtained. Quite often the victim must administer first aid treatment himself, and care should be taken to select a snake bite first aid kit which is easily adaptable to use by one person. Also, the snake bite kit should be of the type which will fit all standard unit-type first aid kits, as a supplement unit.

It has been said that it is not practical or economical to equip personnel with snake bite first aid kits since the danger of being bitten is either non-existent or extremely remote. If it is certain that the danger does not exist, then this reasoning is understandable. However, if the possibility of snake bite exists in any degree, such reasoning is completely without justification. There are known instances where companies have operated for years without one case of snake bite, and consequently without suitable emergency equipment. Then it happened—then it was too late! The importance of efficient snake bite suction kits cannot be overemphasized.

Insect Bite

It is universally recognized that insects are occupational hazards. Consequently, in the past few years, there has been a demand for insect repellents to effectively combat mosquitos, flies, chiggers, ants and scores of other insects which prove irritating and take a man's mind off his job. It is then that the danger appears, for it is practically impossible for a worker to ignore troublesome insects. It is instinct for him to swat at the tiny demons, quite often around dangerous machinery or hot wires. If conditions warrant, effective repellents should be used, and today it is possible to combine such repellents with standard unit-type first aid.

Burns

One hazard which appears in almost every industry, both stationary and field operative, is burns. It is one of the oldest and most dreaded injuries, and it is especially common to such industries as oil, chemical, public utility and logging and forestry operations. In most cases where burns are limited in scope, effective first aid treatment can be given by manual application of an approved first aid medication.

However, where burns are likely to be severe and widespread, burn first aid facilities must be fast, dependable and effective. The prime duties when giving burn first aid are to relieve pain, prevent shock and prevent infection. All these things must be accomplished in a minimum amount of time to limit the severity of successive complications.

In treating burns care should be taken that injured areas are never touched by the hands, in order to reduce the chances of infection.

Physician's Advice

Burn first aid problems should be thoroughly discussed with the company medical director. He is qualified to analyze such problems and prescribe courses of action. Proper burn first aid will save him valuable time and render the greatest possible service to the patient. Today, burn spray first aid kits are available which combine spray applicators, material for limited manual application, and a complete assortment of bandages and items necessary for complete and thorough burn first aid.

No matter how efficient and complete first aid equipment is, every effort should be made to be certain that each company, regardless of size, has properly trained first aid personnel. This holds true even in companies where professional medical personnel are available, since the period of time it takes to deliver a patient to medical attention varies. The time directly following an injury is critical, since it is then that bleeding, stoppage of breathing and shock appear. This point is of such importance that it is part of the definition of first aid: "Temporary aid and comfort given to the patient to avert further complications in an emergency until professional medical attention can be obtained."

Each work group should have in it at least one person who is a trained first aid worker. In larger groups, more of these trained per-

(Continued on page 76)

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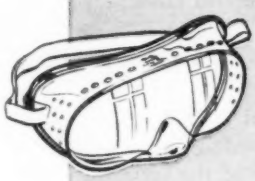

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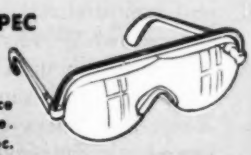

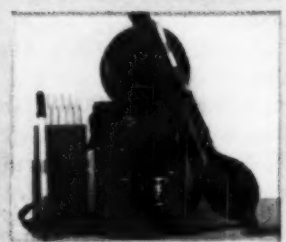

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WHICH RAYS INJURE THE

On many jobs, personnel need eye protection from harmfullight rays

FEATURE

Second in the series of articles on Eye Protection. Next feature in May.

By A. LINK KOVEN, M.D.*

ALTHOUGH much has been written on inadequate illumination, there is little information available for industrial personnel on the harmful effects of some kinds of light on the eyes. This discussion summarizes the facts on the various kinds of dangerous light to which industrial workers may be exposed if precautions are not taken.

Because the term "light" is sometimes used loosely, here are some definitions. Beginning with the more inclusive term of radiant energy, which consists of transverse vibrations spread in space by electromagnetic vibration, the classification is:

1. Light, which is made up of:
   (a) Visible rays.
   (b) Infrared rays.
   (c) Ultraviolet rays.
2. X-rays and gamma rays of radium.
3. Electricity.

In order of decreasing wavelength the classification reads:

1. Electricity: several thousands of kilometers (for ordinary alternating current).
2. Infrared: exceeding 8,000 Angstrom units.
3. Light: 8,000–4,000 Angstrom units.
4. Ultra-violet: 4,000–200 Angstrom units.
5. X-rays and X-rays of radium—average of 1 Angstrom unit.

Radiant Energy & the Eye

The different components of the eye, that is, the cornea, the lens, and the vitreous body, each has a selective power of absorption for light and its rays. The cornea and the lens very effectively retain the ultraviolet rays. The structures of the eye as a whole absorb the entire infrared band down to 15,000 Angstrom units. About 94 per cent of visible light passes through, and reaches the retina.

Violet and ultraviolet radiations of low penetrative power are stopped by the lens and cornea.

Of the X-rays, the Grenz rays, also called Bucky's rays, have a relatively great wavelength and a lower power of penetration. The other harder X-rays are more penetrating as their wavelength becomes smaller. The gamma rays of radium and radioactive materials are comparable with the hard X-rays. In general, radiant energy must be absorbed to produce a reaction. Therefore, the rays absorbed by the different components of the eye produce some alteration, while those transmitted induce no change.

Mechanism of Action on the Eye

In general, radiations of wavelengths exceeding 2,800 Angstrom units (some of the ultraviolet rays, visible rays and infrared rays) present comparatively little danger to the eye, while radiations below 2,800 Angstrom units (for example, ultraviolet with shortwave length, X-rays and X-rays of radium) are exceedingly dangerous.

Light (photons) represents electric charges which act on the atoms forming the cells of eye tissue. As the result of this electric bombardment, the structure and function of the eye are disarranged. X-rays and radioactive substances act in a similar manner. However, electricity, in the case of direct current, injures by electrolysis; while alternating current, either low or high frequency, injures because of the heat developed in the structure of the eye.

Damage produced by radiations of wavelength lower than electricity has certain common characteristics. The damage these rays produce is

* Dr. Koven is associated with the University of Pennsylvania Graduate Hospital, Philadelphia.

EYES?

not as immediate as the destruction produced by heat or chemically caustic substances. For example, the effects of these radiations appear some 5 to 12 hours after the rays have entered the eye. Changes in the lens of the eyes make their appearance many months later, or at least they attract the attention of the patient many months after exposure.

A general summary of the destructive effects of radiant energy follows:

1. Light chiefly produces conjunctival and corneal damage, and the effects are also associated with visual disturbances, which in most cases are transitory in nature.

2. X-rays and X-radiation may produce cataract and, more rarely, in larger doses, damage that would require removal of the eyeball.

3. Electricity can give rise to cataract by high tension currents, and at times damages the inner linings of the base of the eye.

Damage to the Eye Produced by Light

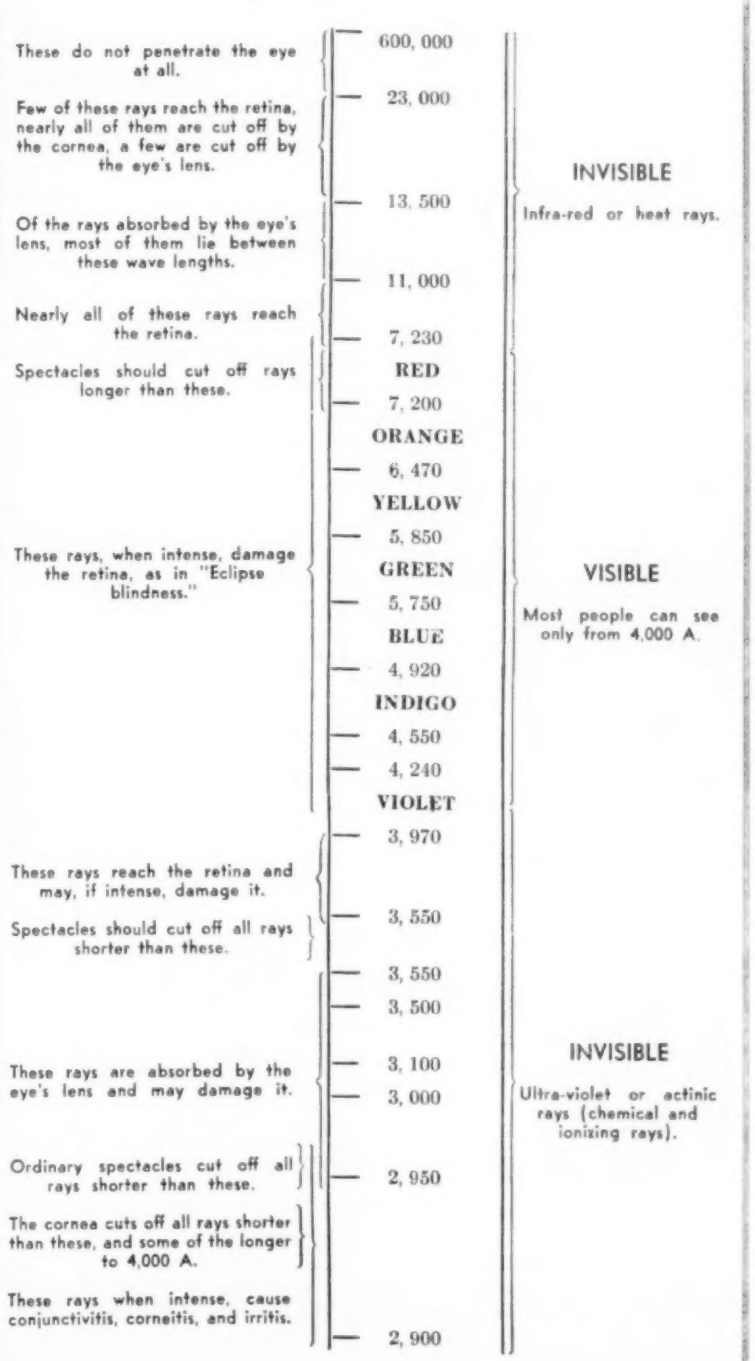
Sunlight is dangerous only under exceptional circumstances, such as looking at the sun for too long a period of time. Most of us have experienced seeing small fleeting dark spots in our field of vision, by prolonged observation, especially at sunset. These are of no clinical significance. However, the observation of the sun during an eclipse is particularly dangerous.

Very bright artificial light, as in arc welding, can injure eyes. The injurious components of light in some categories are its ultraviolet components; in others, the infrared,

DIAGRAM OF THE SPECTRUM

(From Legge: Ophth. 13,545, 1916)

Wavelength in Angstrom units (1A—10–8 cm)


These do not penetrate the eye at all.
600, 000
Few of these rays reach the retina, nearly all of them are cut off by the cornea, a few are cut off by the eye's lens.
23, 000
INVISIBLE
13, 500
Infra-red or heat rays.
Of the rays absorbed by the eye's lens, most of them lie between these wave lengths.
11, 000
Nearly all of these rays reach the retina.
7, 230
Spectacles should cut off rays longer than these.
RED
7, 200
ORANGE
6, 470
YELLOW
5, 850
These rays, when intense, damage the retina, as in "Eclipse blindness."
GREEN
VISIBLE
5, 750
Most people can see only from 4,000 A.
BLUE
4, 920
INDIGO
4, 550
4, 240
VIOLET
3, 970
These rays reach the retina and may, if intense, damage it.
3, 550
Spectacles should cut off all rays shorter than these.
3, 550
3, 500
INVISIBLE
3, 100
These rays are absorbed by the eye's lens and may damage it.
3, 000
Ultra-violet or actinic rays (chemical and ionizing rays).
Ordinary spectacles cut off all rays shorter than these.
2, 950
The cornea cuts off all rays shorter than these, and some of the longer to 4,000 A.
These rays when intense, cause conjunctivitis, corneitis, and irritis.
2, 900

WHICH RAYS INJURE THE

On many jobs, personnel need eye protection from harmfullight rays

FEATURE

Second in the series of articles on Eye Protection. Next feature in May.

By A. LINK KOVEN, M.D.*

ALTHOUGH much has been written on inadequate illumination, there is little information available for industrial personnel on the harmful effects of some kinds of light on the eyes. This discussion summarizes the facts on the various kinds of dangerous light to which industrial workers may be exposed if precautions are not taken.

Because the term "light" is sometimes used loosely, here are some definitions. Beginning with the more inclusive term of radiant energy, which consists of transverse vibrations spread in space by electromagnetic vibration, the classification is:

1. Light, which is made up of:
   (a) Visible rays.
   (b) Infrared rays.
   (c) Ultraviolet rays.
2. X-rays and gamma rays of radium.
3. Electricity.

In order of decreasing wavelength the classification reads:

1. Electricity: several thousands of kilometers (for ordinary alternating current).
2. Infrared: exceeding 8,000 Angstrom units.
3. Light: 8,000–4,000 Angstrom units.
4. Ultra-violet: 4,000–200 Angstrom units.
5. X-rays and X-rays of radium—average of 1 Angstrom unit.

Radiant Energy & the Eye

The different components of the eye, that is, the cornea, the lens, and the vitreous body, each has a selective power of absorption for light and its rays. The cornea and the lens very effectively retain the ultraviolet rays. The structures of the eye as a whole absorb the entire infrared band down to 15,000 Angstrom units. About 94 per cent of visible light passes through, and reaches the retina.

Violet and ultraviolet radiations of low penetrative power are stopped by the lens and cornea.

Of the X-rays, the Grenz rays, also called Bucky's rays, have a relatively great wavelength and a lower power of penetration. The other harder X-rays are more penetrating as their wavelength becomes smaller. The gamma rays of radium and radioactive materials are comparable with the hard X-rays. In general, radiant energy must be absorbed to produce a reaction. Therefore, the rays absorbed by the different components of the eye produce some alteration, while those transmitted induce no change.

Mechanism of Action on the Eye

In general, radiations of wavelengths exceeding 2,800 Angstrom units (some of the ultraviolet rays, visible rays and infrared rays) present comparatively little danger to the eye, while radiations below 2,800 Angstrom units (for example, ultraviolet with shortwave length, X-rays and X-rays of radium) are exceedingly dangerous.

Light (photons) represents electric charges which act on the atoms forming the cells of eye tissue. As the result of this electric bombardment, the structure and function of the eye are disarranged. X-rays and radioactive substances act in a similar manner. However, electricity, in the case of direct current, injures by electrolysis; while alternating current, either low or high frequency, injures because of the heat developed in the structure of the eye.

Damage produced by radiations of wavelength lower than electricity has certain common characteristics. The damage these rays produce is

* Dr. Koven is associated with the University of Pennsylvania Graduate Hospital, Philadelphia.

EYES?

not as immediate as the destruction produced by heat or chemically caustic substances. For example, the effects of these radiations appear some 5 to 12 hours after the rays have entered the eye. Changes in the lens of the eyes make their appearance many months later, or at least they attract the attention of the patient many months after exposure.

A general summary of the destructive effects of radiant energy follows:

1. Light chiefly produces conjunctival and corneal damage, and the effects are also associated with visual disturbances, which in most cases are transitory in nature.

2. X-rays and X-radiation may produce cataract and, more rarely, in larger doses, damage that would require removal of the eyeball.

3. Electricity can give rise to cataract by high tension currents, and at times damages the inner linings of the base of the eye.

Damage to the Eye Produced by Light

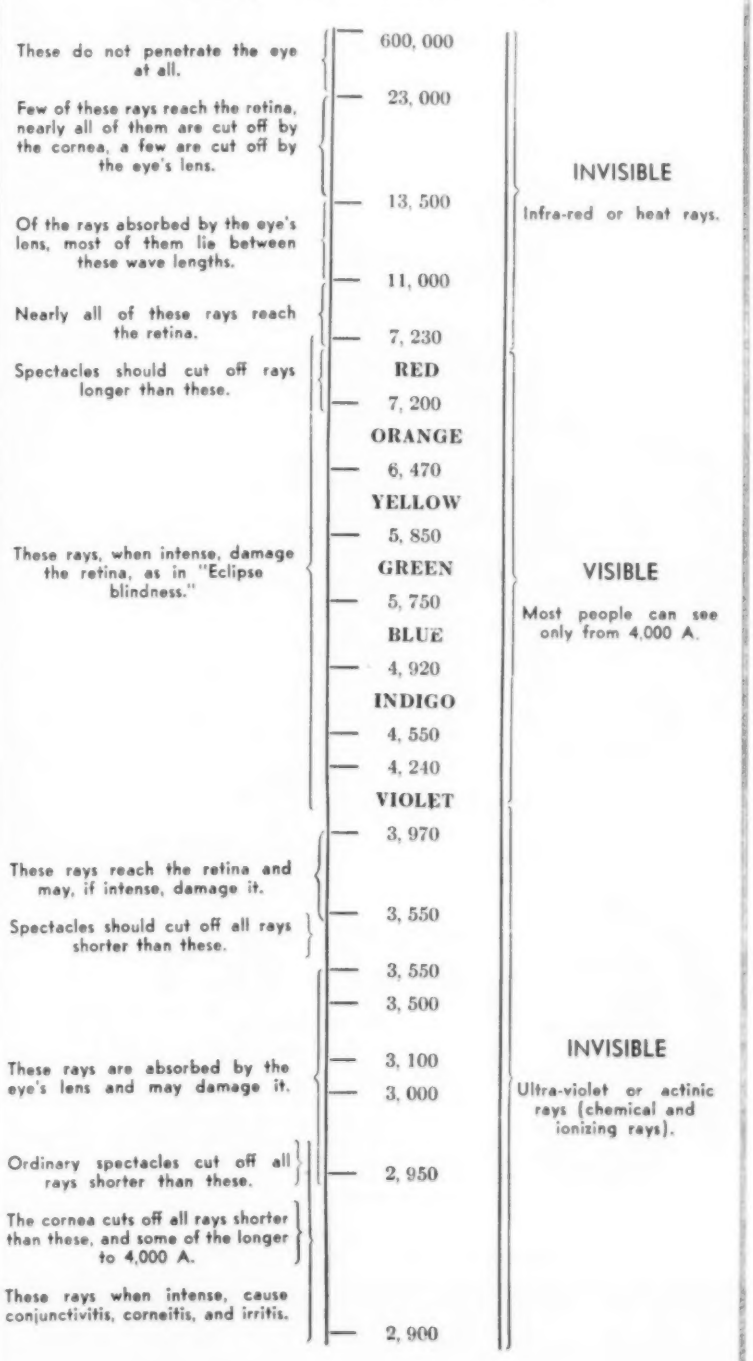
Sunlight is dangerous only under exceptional circumstances, such as looking at the sun for too long a period of time. Most of us have experienced seeing small fleeting dark spots in our field of vision, by prolonged observation, especially at sunset. These are of no clinical significance. However, the observation of the sun during an eclipse is particularly dangerous.

Very bright artificial light, as in arc welding, can injure eyes. The injurious components of light in some categories are its ultraviolet components; in others, the infrared,

DIAGRAM OF THE SPECTRUM

(From Legge: Ophth. 13,545, 1916)

Wavelength in Angstrom units (1A—10–8 cm)


These do not penetrate the eye at all.
600, 000
Few of these rays reach the retina, nearly all of them are cut off by the cornea, a few are cut off by the eye's lens.
23, 000
INVISIBLE
Infra-red or heat rays.
13, 500
Of the rays absorbed by the eye's lens, most of them lie between these wave lengths.
11, 000
Nearly all of these rays reach the retina.
7, 230
Spectacles should cut off rays longer than these.
RED
7, 200
ORANGE
6, 470
YELLOW
5, 850
These rays, when intense, damage the retina, as in "Eclipse blindness."
GREEN
VISIBLE
5, 750
Most people can see only from 4,000 A.
BLUE
4, 920
INDIGO
4, 550
4, 240
VIOLET
3, 970
These rays reach the retina and may, if intense, damage it.
3, 550
Spectacles should cut off all rays shorter than these.
3, 550
3, 500
INVISIBLE
3, 100
These rays are absorbed by the eye's lens and may damage it.
3, 000
Ultra-violet or actinic rays (chemical and ionizing rays).
Ordinary spectacles cut off all rays shorter than these.
2, 950
The cornea cuts off all rays shorter than these, and some of the longer to 4,000 A.
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with its burn effect. It is analogous to a burn induced by focusing the rays of the sun on the skin. However, the skin is protected by a layer of keratin, a physically tough horny material and chemically resistant. With chronic exposure to ultraviolet rays the skin acclimatizes by increasing its keratin layer. However, the eye shows no such change in susceptibility with repeated exposures.

Light Stroke

This condition usually strikes workers exposed to bright light such as that emitted by molten metals or glowing blocks of metal, or oxy-acetylene arc welders, and furnace men standing before electric furnaces. Often affected are inexperienced workers and, in many instances where improper shielding exists, nearby workmen at other tasks.

The immediate reaction to this type of radiation is a "dazzled" state. This is followed by a loss of part of the patient's field of vision, which is transitory. Some 5 to 8 hours later the patient experiences his first pain and usually describes it as "sand under the eyelids." The membrane of the eyeball and eyelid becomes red, tears begin to flow, and the patient avoids light, which aggravates the irritation. The eyelashes become glued together by a mucous secretion of the eye. At times there is an impression of fog or haze. The entire condition usually clears up in 12 to 24 hours.

Electric Arc Stroke

Synonyms for electric arc stroke are electric sunstroke and "flash or welder's eye."

This arc stroke affects workmen engaged in electric arc welding, inexperienced apprentices, spectators, or especially workmen in the vicinity of the welder. It can be produced also by the light of a high tension short circuit. A very short period of exposure to the light of the arc is sufficient to produce the injury. However, it is usually caused by excessive exposure to welder's electric arc over a period of time. The injury is cumulative.

In the milder and more commonly seen forms, the patient does not stop his work, because he feels no pain at the moment of exposure, the symptoms appearing some 8 to 15 hours later. After exposure to the arc light, a painful sensation as of foreign bodies moving under the eyelids is experienced and often prevents sleep. A very slight redness of the eye and some sensitivity to light are present. In acute cases, an intense spasm of the eyelid resists any attempt to open it, and redness and sensitivity to light become much more pronounced. Frequently, the patient says he feels as if there were a veil before his eyes.

Some individuals complain of intense headaches and insomnia. There is severe swelling and inflammation of the membrane covering

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The patient recovers completely in a few days. Adequate treatment exists so that only the worst cases need cause lost time.

Snow Blindness

This condition, sometimes called glacial sunstroke, is not caused by the snow, but by rays reflected from the snow. It usually occurs at altitudes of over 1 thousand feet and may occur in overcast weather as well as in bright sunshine.

The patient usually feels as if he has had sand under his eyelids after approximately 10 hours of exposure to the sun. The lining of the eyelid and the membrane covering the eye become red and swollen. Pains in the forehead and extreme sensitivity to light occur. In severe cases erosion on the cornea is visible. The patient is prevented from opening his eyes because of the violent spasms of the eyelids.

When the acute symptoms subside the patient usually complains of a dazzled condition, later a sense of failure of illumination of objects and of seeing black or red spots or even a large central area of darkness. In a few days complete recovery occurs. There is adequate treatment, but emphasis should be placed on preventive measures.

Red Vision

If a person is exposed to an intense light for some time a condition of red vision develops. This phenomenon was first noticed in patients after cataract operations in 1879. Red vision is commonly experienced from exposure to prolonged glare from snow, water or from brilliant lights as in a motion picture or television studio. The condition clears rapidly, but the exact cause is not definitely established.

Powerful arc lamps or mercury vapor lamps formerly used to light motion picture studios caused eye injury to as high as 70 percent of persons exposed to them. Most of these conditions have been corrected by proper lighting, but any use of these lamps will produce symptoms of watering of the eye, headaches and erosion of the cornea, unless precautions are taken. While most recoveries take only 2

(Continued on page 37)

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Ultraviolet rays were thought by some writers to be important in the production of heat cataract. However, this theory has been disproved by showing that the chief rays emitted from glowing glass are infrared, with very little ultraviolet radiation. The great majority of investigators believe glass-blowers cataract is produced by infrared rays, ranging from 7,500 to 24 thousand Angstrom units. Suitable screening devices in the form of goggles or shields are effective in preventing the condition.

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In this condition the eyes involuntarily oscillate rapidly either in a vertical or a horizontal direction, more commonly described as a rolling movement of the eyes. It is found particularly among miners, but its incidence in the United States is relatively low. The generally accepted theory is that it is due to insufficient lighting. It is noted most frequently among individuals who are above ground at night, only. Indeed, night blindness is an early symptom. Tumors of the eyelids, hands and heads may occur in connection with this condition (known medically as nystagmus). The only treatment recommended for these patients is to provide them with surface work immediately.

For detailed descriptions of eye protective products see pages 87–123 of "Best's Safety and Maintenance Directory," 1952–53 edition.

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CONSOLIDATED LABORATORIES, DIV.

CONSOLIDATED CHEMICAL LABORATORIES, INC. 1470 S. VANDEVENTER ... ST. LOUIS 10, MO.

(For further details, use Key # D-22 on free Inquiry Card on page 81)

In this condition the eyes involuntarily oscillate rapidly either in a vertical or a horizontal direction, more commonly described as a rolling movement of the eyes. It is found particularly among miners, but its incidence in the United States is relatively low. The generally accepted theory is that it is due to insufficient lighting. It is noted most frequently among individuals who are above ground at night, only. Indeed, night blindness is an early symptom. Tumors of the eyelids, hands and heads may occur in connection with this condition (known medically as nystagmus). The only treatment recommended for these patients is to provide them with surface work immediately.

For detailed descriptions of eye protective products see pages 87–123 of "Best's Safety and Maintenance Directory," 1952–53 edition.

SPEED UP SLEDGI

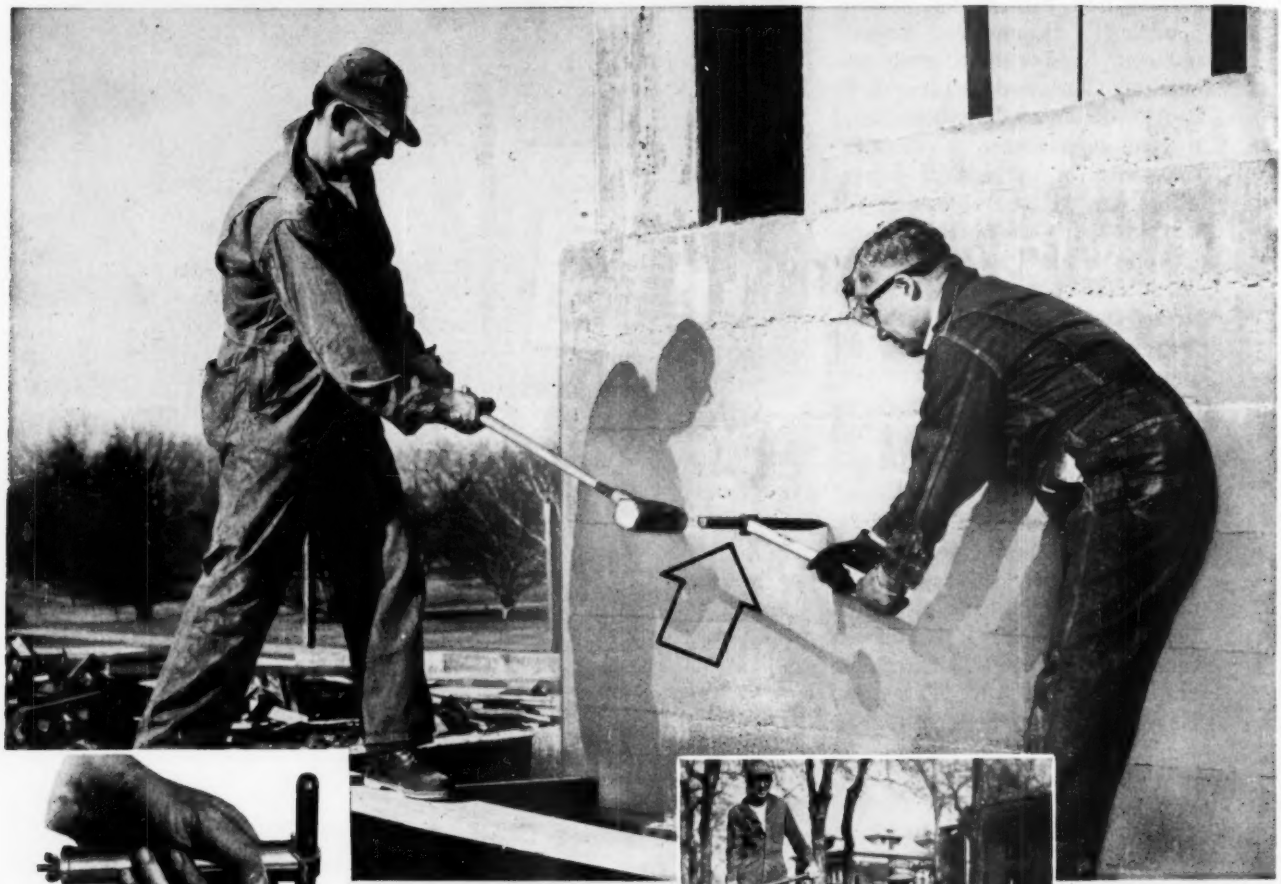
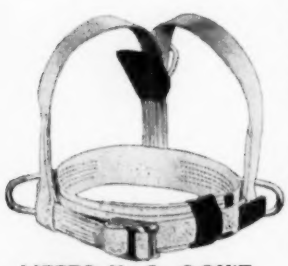


Photo shows why you can "strike hard with safety" with a 6" one man SAFE-HI chisel grip.

Illustrations show 18" two-man chisel grip in use. This safety tool has numerous uses throughout industry.

Construction Belts and Shock Absorbers



MEETS U. S. GOV'T. SPEC. #406-C

Get surer protection for men working in high places with SAFE-HI Belts and Shock Absorbers. Write us for full information about our various types of-Construction Workers and Window Cleaners Belts. Consult us on your specific safety belt problem.

FOR COMPLETE LADDER SAFETY, USE T

Wall Grip

Holds top of ladder securely on smooth walls. Prevents side slipping. Also helps hold bottom of ladder. Screws are in groove, out of way. Screw holes spaced equally so grip can be shifted when worn. Grip can be recessed flush with ladder surface.

NG WITH SAFETY!

Now you can help your Production Dept. and help yourself to greater safety!

When workers use SAFE-HI Chisel Grips, production schedules speed up, accidents go down. The two-man SAFE-HI Chisel Grip with the 18-inch handle, prevents smashed hands, makes it easier to reach hard-to-get-at places, permits faster, more accurate work, and securely holds any large sledge driven tool up to 2¾" in diameter. The one-man model with 6-inch handle, eliminates the danger of smashed fingers and flying chisels, holds chisels, star drills, punches, gouges, marking dies and test tubes up to 1¼" in diameter. Flexible shock-proof rubberized band, prevents creeping. Get the facts today on this practical way to prevent accidents!

CONTACT YOUR SAFETY DEALER OR WRITE TO:

ROSE MFG. CO.

1731 ARAPAHOE ST., DENVER, COLORADO

WON'T SLIP...

Don't depend on the human element... Keep your safety record clean with non-slip SAFE-HI Ladder Shoes

THESE SAFE-HI PRODUCTS!

Pole Grip

Holds top of ladder on any pole, pipe or corner. Fits any ladder. Prevents sudden tipping which causes workers to plunge off ladders.

SAFE-HI Ladder Shoes are scientifically constructed to protect even careless workers from falls, because tests prove that SAFE-HI shoes will hold far beyond the recommended safety angle. Rubber, cord and ridges in SAFE-HI Ladder Shoe treads hold on dry, wet or greasy floors. When turned on end, a self-sharpening spike holds on snow and ice. Available in two models—Steel, and Non-Spark Metal; and two widths—1⅜" for straight ladders, and 15/16" for step-ladders.

MEETS SAFETY COLOR CODE FOR INDUSTRY APPROVED BY UNDERWRITERS LABORATORY FOR ALL SURFACES.

(For further details, use Key # D-23 on free Inquiry Card on page 81)

Now... every month...

YOUR

Safety News

your personal safety message directly to your employees!

Safety must be sold to the man at the bench. It must be made vivid and interesting to capture and retain his attention. And his self-interest must always be emphasized.

YOUR SAFETY NEWS for ten years has successfully served many outstanding concerns. Now, SM&P the pioneer safety publication, adds its 50 year experience to this unique employee-management safety partnership.

The following pages show HOW your personal safety messages get across. Non-controversial and carefully planned to promote better employee relations throughout the entire plant.

Let YOUR SAFETY NEWS go to work for you.

YOUR Safety News

PUBLISHED IN THE INTEREST OF YOUR SAFETY

THE JOHN DOE COMPANY, Inc.

"1492"

THE WORLDS BIGGEST ACCIDENT

When Christopher Columbus sailed from Europe in 1492 he had no thought of discovering a New World, but setting out to blaze a shorter route to India he ran smack dab into the Americas.

Discovered by accident America by a rally of fate has ever since led the World in Accident prevention. America does and always should stand as a symbol of safety.

As we see it — Near accidents are lessons from which we can learn and correct the causes of bad accidents.

John Doe

Litho. U.S.A. Copyrighted 1953 Alfred M. Best Company, Inc. 02

YOUR IMPRINT HERE!

Makes Your Safety News a personal good-will ambassador to your employees.

YOUR SIGNATURE HERE!

Available to those who want an even more personal employee contact, is your name or facsimile signature. Completely non-controversial, mutually helpful material contributing to better employee relations.

Safety

FUMBLES- ERRORS & OUT

ACHIEVEMENT by team work is an idea as old as the world itself. Co-operation, you know, built the pyramids of Egypt —but it was teamwork under the lash.

That type of co-operation has no place in industry. Least of all in safety. You can't force men to be careful.

As has been often said, one weak link will spoil the chain.

The safety chain is just as strong as the men who comprise it. One man can spoil his plant's safety record in the flick of an eyelash. Did you ever stop to think that weakness is the thing that breaks strength? Weakness has destroyed men, governments and civilization ever since the world began.

Let just one man balk or pull the wrong way, and co-operation is spoiled.

Did you ever see a perfectly executed "hit-and-run" play in a baseball game? fect co-operatio teamwork. Nothing about it. Rather and-act." That's t safety co-operatio ployees thinking working safely.

Why not try?

Kipling hit the head when he wro mortal lines:

"It ain't the indi

Nor the army a

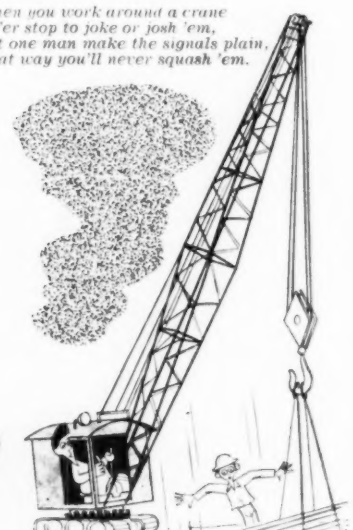
But the everlasti

Of every bloomi

When you work around a crane
Ne'er stop to joke or josh 'em,
Let one man make the signals plain,
That way you'll never squash 'em.

IF IN DOUBT ABOUT THE VALUE OF SAFETY ASK THE MAN WHO'S HAD AN ACCIDENT

WHEN YOU SEE AN UNSAFE CONDITION —REPORT IT!



WHO IS WHO &

IF AN ACCIDENT OCCURS, who i Safety Engineer? The Management? The Foren who gets hurt?

Each has his own responsibilities. In the fina ever, it is the workman.

It is the man on the job who must assume personal responsibility and watchfulness. It is his body that is injured. His pay check that is stopped. His family that suffers when he is injured.

A safety engineer can eliminate hazards, provide every reasonable safety device, issue bulletins and warnings, and preach 'til the cows come home. All this becomes just so much hog wash if the workmen do not include and actions as an inseparable part of his job pr

Does the constant "harpings" on safety ployees? If so, they're not thinking right. If une and care were not necessary, the "stop signs" o would never be painted.

The least any man can do is to be honest w one but himself knows the risks he unnecessaril the rules he violates, the proven methods he dis lucky star he was born under may prove fickle and can fall on his "noggin."

PRICES

Per Month	Your Special Imprint	Standard Imprint
6,001 copies and over	2½¢ each	2¢ each
3,001 to 6,000 copies	3¢ each	2½¢ each
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25 to 99 copies	*	5½¢ each

*5½¢ each plus $3.00 per month for Special Imprint

F.O.B. New York, N. Y.

ll game? That's per-
operation — perfect
. Nothing "hit-or-miss"
Rather it is "think-
That's the secret of
-operation — all em-
hinking safety and
afely.

hit the nail on the
n he wrote these im-
s:

the individual,

army as a whole,

everlasting teamwork

y bloomin' soul."

& WHY

s, who is at fault? The
he Foreman? Or the man

the final analysis, how-

include safety thinking
is job procedure.

safety "gripe" the em-
nt. Unending vigilance
signs" on our highways

hone with himself. No
ecessarily takes each day,
ds he disregards. But the
ve fickle any moment—

There's a Place for Everything, Including Horseplay and Monkey Business. But the Job Isn't the Place! The Zoo Is!!

An ash tray is something to put cigarette butts in when the room hasn't a floor.

Call the fireman! Ring the bell!
The factory's blazing! Well! Well! Well!
Floor is cluttered. Where's the hose?
What can we do? Lord only knows.
Guess we'll have to look for another place to work.

GOING TO BLAZES?

IN YOUR EMPLOYEE'S INTEREST

Your employee's self-interest in preventing accidents is always emphasized. Presented in down-to-earth language for the entire family.

CHOCK-FULL OF ILLUSTRATIONS

Art work is carefully chosen to lodge home each point. The cartoon style makes YOUR SAFETY NEWS as familiar and welcome reading as the Sunday supplement.

THE "FOLKSY" APPROACH

Keeping the contents folksy, adding the grace note of humor, delivers your safety message with a nudge instead of a bludgeon. Your monthly chat gets enthusiasm instead of tolerance.

VIVID COLOR

Generous use of color gives sparkle, adds to the attention-riveting qualities of YOUR SAFETY NEWS. Each issue is as lively as any news-stand favorite.

HOW TO ORDER

YOUR SAFETY NEWS may be ordered with either the standard Imprint or with your own Special Imprint. The Standard Imprint reads PLEASE COOPERATE FOR THE SAFETY AND HEALTH OF ALL . . . signed . . . A SAFE WORKER.

However, the essential function of YOUR SAFETY NEWS is best served by personalizing it with the name of your firm and the name or facsimile signature of a company representative, as illustrated. You can conveniently give full instructions for your Special Imprint by using the order blank below.

Item (1) FIRM NAME. Please show the name of your firm exactly as it is to appear.

Item (2) INDIVIDUAL NAME OR SIGNATURE, if desired. In the large space provided, please show, in black ink, the individual name or signature, if desired, which is to appear each month on the first page of YOUR SAFETY NEWS.

NOTE: Although a personal signature is effective, some firms substitute: SAFETY DEPARTMENT, YOUR SAFETY COMMITTEE, A SAFE WORKER, etc.

ODDS & ENDS in Accident Prevention

I Cut ACCIDENTS

A SAFE WORKMAN WILL NOT INJURE

1. His fellow worker
2. Himself
3. The working tools.

I Watch My Health

- I get at least 8 hours of sleep every night.
- I drink plenty of clean cool (not ice cold) water,
- I eat extra salt during hot weather (unless I have diabetes or heart trouble) to replace the salt lost in perspiration.
- I take no chances with infection. I get first-aid for even the smallest cuts and scratches.
- I keep my back straight when lifting.

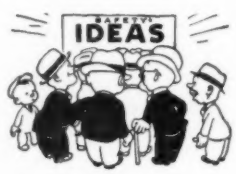
I Use Care

- I make sure that ladders are strong and set solidly at the proper angle.
- I use the right tool for each job and make sure that I know exactly how to use it.
- I never unclog, oil or adjust a machine unless it is completely stopped.
- I never wear ties, loose clothes or floppy gloves around moving machinery.
- I learn to do each job efficiently without lost motion.

Conscience doesn't keep you from doing anything wrong, just keeps you from enjoying it.

* * * * *

Housewife to Vacuum Cleaner Salesman: "You might try the people next door. We use theirs and it's terrible."



Safety Susie Says:

Feeling Low

"Bill Groucher gets a lift out of buying another automobile when he's down in the dumps."

"I've always wondered where he gets the cars he drives."

Wiseman: "Changing a tire, eh?"

Hotstuff: "No, I just get out every few miles and jack it up to give it a rest."

Law Student (Arrested for speeding): "Hello, Judge! How are you this morning."

Judge: "Fine, $30.00."

A smart man is one who hasn't let a woman pin anything on him since he was a baby.

"Waiter, these beans seem very stringy."

"Maybe it would help, Madam, if you ate them with your veil up."

CLIP OUT AND MAIL TODAY!

ALFRED M. BEST COMPANY, Inc.
75 Fulton Street
New York 38, N. Y.

Gentlemen:

Until further advised, please publish for us each month..... copies of YOUR SAFETY NEWS at.....¢ each.

☐ Special Imprint ☐ Standard Imprint

Item (1) Our Special Imprint should appear as follows:

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Item (2—If desired) Please imprint the name or signature shown below, or the following:

INVOICE TO:

Name_____

Firm Name_____

Address_____

City_____ Zone_____ State_____

Management's Responsibility

(From page 16) their time and effort to building up the know-how for better guarding, better protection and better methods. They stimulate interest in safety through posters, material written for plant papers and motion picture presentations. They are the sparkplugs of the safety program.

Safety and Discipline

Discipline is essential for plant efficiency. It is essential for good employee relations; it is essential in all phases of plant relationships; it is not confined to safety.

You will not find good safety discipline in a plant which has poor discipline otherwise. There should be little difficulty in bringing about compliance with generally accepted safety rules and regulations. The educational approach will suffice to bring this about in the very large majority of cases. There will only be a few instances where individuals insist upon violating good safety practice. In those instances, management must be prepared to step up to the situation. Failure to conform with good safety practice cannot be condoned. If the violation is flagrant and endangers not only the individual but his fellow employees, discharge may be the only recourse. For example, smoking in an area where flammable liquids are used. In most cases we can apply corrective discipline. First, we use education. If this fails, we try a reprimand, then a penalty and only as a last resort, do we use discharge.

In outlining the company's safety program in some detail, I have tried to place the emphasis upon fundamental principles and not upon the particular form in which those principles are applied. I am not suggesting that all companies adopt the details of the program. However, the fundamental principles which underlie the program have been hammered out the hard way. They work effectively in our operations and, they are, I believe, the key to success in any safety program.

Let's briefly review the record for the last 10 years. In 1942 the company had a frequency rate of 4.39, and in 1952 the frequency rate was 1.35. This is an improvement of 69 percent. The severity rate followed pretty much the same pattern. In other words, in 1942 the severity rate was .53, and in 1952 the rate was .22, an improvement of 58 percent.

We are proud, of course, of the improvement we have made. However, we are not complacent, we have reason to feel that our record is not as good as it should be in some plants, and we still have a job to do in making it better.

In fact, management from the top down will not be satisfied until all accidents in our plants are eliminated. This record could not have been attained without a sound basic approach to safety and without the full cooperation of employees.

Pictures by courtesy of General Motors Corporation.

SEARJEANT *Safety* GUARDS *for Punch Presses*

FIT ANY PRESS 30 DAY FREE TRIAL

SWEEP GUARD

Guard sweeps across feed area on downward stroke of ram. Flat arc of guard arm travel provides greatest possible protection. Entire guard easily swung aside for making press adjustments. Send for Bulletin 135.

Adjustable BASKET GUARD

Enclosure type guard, used for blanking and other first operation work, prevents operator from reaching in or coming in contact with moving die. Easily installed on any make punch press. Also available with clear plastic window. Write for free catalogs.

Other Guards Designed and Made by Searjeant

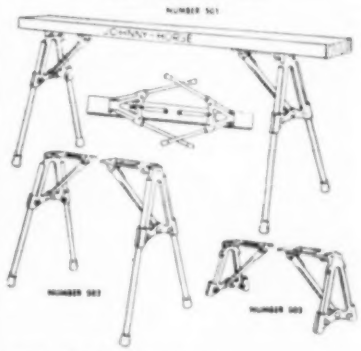
• DOUBLE SWEEP GUARD • END ZONE BARRIER GUARD • NON-REPEAT MECHANISM

SEARJEANT METAL PRODUCTS INC. Dept. S, Box 101, MENDON, N. Y.

(For further details, use Key # D-24 on free Inquiry Card on page 81)

SAFER • FLEXIBLE

"JOHNNY-HORSE"



#501: Folding Sawhorse.
Adjustable for height. Sturdy all-metal construction, except top timber.

#502: Hinge Bracket Leg Assembly.
Well adapted for use as folding table and bench legs.

#503: Hinge Bracket Only.
For those wishing to furnish legs and top timber, for specific need.

Safer: metal construction for strength. Ease of handling. Rubber tips prevent slippage. All fireproof except top timber.

KEEP YOUR LADDERS

"ON THE LEVEL"

#1001:
Non-adjustable

#1002:
One adjustable; one not

#1003:
Both sides adjustable

***with* JONNY-FOOT LADDER SAFETY SHOES and STABILIZERS**

"The 5-Star Safety Shoe"

★ Ball and Socket Foot permits 100% efficiency performance, with 19 sq. in. of gripping surface.
★ Practically indestructible
★ Lowest cost for life of equipment
★ Easily installed in minutes
★ Three models:

Write for full information

JON-NE-FUT Mfg. Co., Inc.

Box 226 • South Gate, Calif.

(For further details, use Key # D-25 on page 81)

2 Dramatic Safety Records

J. H. Carmichael, president of Capital Airlines, (second from left) receives a plaque from Albert A. Morey, Marsh and McLennan vice-president, citing the airline for its outstanding safety record. James W. Austin, (left) Capital's vice-president of traffic and sales and Franklin Winship, aviation department manager for Marsh and McLennan, watch the award.

Airline Company and Air Force Base Contractors Awarded Plaques for Outstanding Accident-Prevention Achievement.

PASSENGER carrying airlines have demonstrated that safety to life carries the top priority in their operations, with the result that many lines have chalked up a perfect passenger safety record for all of 1952, and the greatest safety record in aviation history.

In recognition of its completion of 1,403,175,440 passenger miles without a fatality as of July 31, 1952, Capital Airlines recently was the recipient of a plaque awarded to that carrier by Marsh & McLennan, Inc., insurance brokers of Chicago. This is the equivalent to carrying every man, woman and child in the United States a distance of 10 miles without a single fatality. While the Marsh & McLennan plaque was awarded to Capital for its record to the end of July, the mileage figure without passenger fatality, fortunately, is still growing.

SAFETY RECORD AT THULE AIR BASE

The safety record achieved by the contractors and workmen who built the Thule Air Force base in northern Greenland was built up under the most adverse climatic conditions imaginable. Despite those handicaps, Thule was finished with an accident-frequency record 75 percent better than the national construction average for the same type of work stateside, according to S. Bruce Black, President of Liberty Mutual Insurance Company, who presented a plaque to Peter Kiewit, whose firm joined with other American contractors under the name of the North Atlantic Constructors to build Thule under the supervision of the Northeast District of the Corps of Engineers.

The award was made at a recent luncheon in New York attended by construction executives, government officials and the military, headed by Lt. Gen. Hubert Harmon, USAF, and Brig. Gen. Robert Lovett, Corps of Engineers.

During the 1952 construction season, some 5 thousand heavy construction workers completed 8 million, 6 hundred thousand man hours, almost half in Arctic darkness, to rush the base to completion.

Typical of the remarkable safety achievement, said Mr. Black, was the record of the riggers employed on the job. Raising sheet steel for fuel tanks in winds of gale velocity, they completed 60,687 man hours with only one lost-time accident, and it kept only 1 man off the job only 1 day. Another division, the drillers, finished 23,316 man hours without a single accident.

For communication, a steel tower

S. Bruce Black (second from left), president of Liberty Mutual Insurance Company, presents plaque to Peter Kiewit, whose firm was one of several American contractors who worked together to build Thule Air Force Base in Greenland, and achieved an unusual safety record. Joining in congratulation are Brig. Gen. Robert Lovett, Engineers and Lt. Gen. Hubert Harmon, USAF (right).

almost as high as the Empire State Building was erected in 7 weeks with only 1 minor accident, although the men were exposed to winds as high as 125 miles an hour and sometimes separated from ground visibility by clouds. One hundred thousand tons of dynamite were exploded without a serious accident.

This remarkable saving of life and property resulted from 100 percent cooperation and active interest on the part of all concerned.

"It proves that pre-planning can drastically reduce accident potentials, even under the worst weather conditions," Mr. Black stated.

Stateside Training

When Thule was authorized by the Air Force, insurance company loss-prevention engineers were assigned to the "staging areas" in Minnesota where the laborers were recruited and trained for work in "sub-normal winter clime." All were under the tightest security wraps and only a handful of the contractors, the insurance engineers and foremen knew where the men were going.

In this "dry run" period the engineers, with the cooperation and

under the supervision of the Corps of Engineers and with "the fullest cooperation of the contractors," trained the supervisory personnel in safety procedures. They also developed special work clothes for the Arctic climate with the assistance of the Quartermaster Corps. When the construction task force eventually sailed for Greenland, under as much security blackout as any invasion force, the men had already been pre-trained in safety.

"We were only about 9 hundred miles from the North Pole and over 2 thousand miles from the states. A man or machine lost through an accident was not replaceable," Mr. Black said.

Lt. Gen. Harmon, speaking for the Air Force, told the group that "the military is always proud to be associated with success, and Thule is a success story." He described Thule as "one of the most advanced links in the chain of hemispheric defense, an air base which will help quarantine the striking power of potential aggressors."

Speaking of "counter bases" being built by "slave labor," Gen. Harmon said: "Their engineers regard human life as an asset only so long as it can produce. For safety codes, they substitute the whip and gun. In Thule, however, we have free American labor, transshipped voluntarily to Greenland, watched over by expert safety engineers and safety-conscious foremen."

Thule, said Gen. Harmon, "represents 100 percent cooperation between the military, industry and American labor. It is a trinity of national strength transcending the physical aspects of a modern air base."

In addition to Peter Kiewit Sons' Co., Omaha, other contractors composing the North Atlantic Constructors were S. J. Groves & Sons, Inc., of Minneapolis, Condon-Cunningham, Inc. of Omaha, and the Al Johnson Construction Co., Inc. of Minneapolis. The project was under the supervision of the Northeast District of the Corps of Engineers, Col. Morton Solomon, district engineer.

"It's a QUICK, SAFE repair job with Scott Air-Paks (TRADE MARK) protecting us!"

★ Repair and maintenance jobs that must be performed in atmospheres where breathing is hazardous or difficult are completed quickly and efficiently by workers wearing SCOTT AIR-PAKS. Workers are assured of getting as much *cool, fresh air* as they want, no matter how hard they work. Simple to operate and fast, you'll find Scott Air-Paks protecting health and lives throughout the nation's industries . . . they have the *lowest operating cost of any breathing equipment.*

WRITE FOR BULLETIN NO. 510 showing models for every job or call in your Safety Equipment Dealer — today.

ESTABLISHED IN 1932
Scott
FOR SAFETY—FOR SERVICE

SAFETY EQUIPMENT DIVISION
SCOTT AVIATION CORP.
217 ERIE ST., LANCASTER, N. Y.
CANADA: SAFETY SUPPLY CO., TORONTO — BRANCHES IN ALL PRINCIPAL CITIES
EXPORT: SOUTHERN OXYGEN CO., 157 Chambers Street, New York 7, N. Y.

(For further details, use Key # D-26 on free Inquiry Card on page 81)

Associate Editor
Jacob A. Goldberg, A.M., Ph.D.

Conference to Air Odor Problems

A TWO-DAY conference on "Basic Odor Research Correlation," under the joint sponsorship of the American Society of Heating and Ventilating Engineers and The New York Academy of Sciences, will be held on April 23 and 24 at the Barbizon-Plaza Hotel, New York City.

The "odor problem" is of serious concern to chemists, physicists, experimental psychologists, as well as to industrial scientists working in the fields of cosmetics, tobacco, food, and the manufacture and transportation of chemical products. In arranging this conference, the sponsoring groups will bring together the outstanding investigators in academic and industrial laboratories.

The American Society of Heating and Ventilating Engineers has directed extensive research to the problem of odors in air-conditioned spaces. They report that conditioned air, far from being "free" is costly to the degree that energy has been devoted to its heating, cooling and cleaning, and hence must be conserved as far as possible in the interests of economy. They state that when conditioned air is recirculated within an occupied space, it takes up odors from people, furnishings, foods, tobacco and other substances, and questions relating to the perception of such odors, the effects of environmental factors on their intensity, and methods for their control are of fundamental interest to the air-conditioning, heating, refrigeration, and ventilating industries.

Dr. Albert R. Behnke, United States Navy, will preside as General Chairman. Introductory Remarks by Thomas R. Urdahl, Consulting Engineer, Washington, D. C. will present "The Odor Problem in Industry and Sciences." The sessions have been arranged to take up various phases of the problem.

Noise Abatement Week

THE thirteenth annual observance of National Noise Abatement Week will be held April 12–18 particularly in cities conducting year round programs, Willis L. Manning of Libertyville, Ill., president of the National Noise Abatement Council, has announced. Such cities scheduled to participate are Atlanta, Dearborn, Mich., Jacksonville, Fla., New York, Memphis, Glendale, Calif., Salt Lake City, Hartford and others.

Sam L. Hooper, of New York, and Carl Lemmerman of Hartford, Conn., have been appointed co-chairmen of the National Noise Abatement Week committee.

The Council, Mr. Manning said, again will sponsor its annual achievement award competition. Cities and organizations making outstanding effort during the current year in educating the public and industry on the benefits of quieter living and working conditions will be cited.

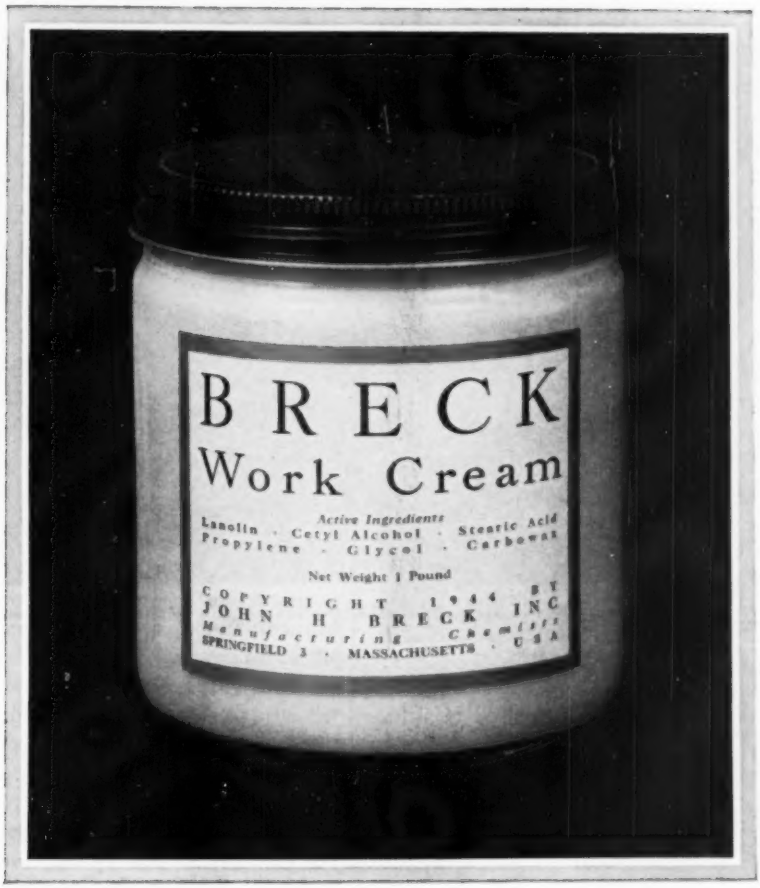
Employee Recreation Booklet

INDUSTRIAL relations and personnel executives will be interested in a forty-page booklet "Plant-Centered Recreation For Defense Workers—Organization and Administration" just released by the National Recreation Association.

Greater worker efficiency and productiveness on the job are emphasized as by-products of this part of a human relations program. Although the booklet is aimed at defense industry, its contents are equally valuable for the non-defense plant as well.

Characteristics of plant-centered recreation activities, how a program is started, types of organization for em-

(Continued on page 55)



B R E C K

WORK CREAM

The use of solvents and other degreasing materials in many industrial processes often results in workers' hands becoming dry, chapped, cracked or otherwise defatted. Such a condition can lead to a serious skin irritation. Breck Work Cream is applied after exposure to degreasing materials to temporarily substitute fatty materials for the natural skin oils which have been removed. In this way Breck Work Cream helps keep hands smooth, pliable and lubricated. Breck Work Cream also helps protect the skin against external irritants until the natural protective barrier of skin oils is replenished.

A Breck Industrial Preparations Booklet will be forwarded to you upon request.

JOHN H BRECK INC · MANUFACTURING CHEMISTS · SPRINGFIELD 3 MASSACHUSETTS
NEW YORK · CHICAGO · SAN FRANCISCO · OTTAWA CANADA

(For further details, use Key # D-27 on free Inquiry Card on page 81)

Farm-spraying with new pesticides requires the wearing of a respirator as this man is doing.

Close-up of an approved farm spray respirator. Goggles should also be worn. Mixing insecticides requires a full-face gas mask with appropriate canister for safety.

DON'T DIE LIKE A FLY!

People using some of the powerful new insecticides must have suitable respirators.

by GEORGE L. SETH
Mine Safety Appliances Co.
Pittsburgh, Pennsylvania

IN WORLD WAR II Hitlerite Germany developed dangerous "nerve gases" which our intelligence agents and chemists reported were organic phosphates.

After the war's end it was learned that the same materials were excellent pesticides, and many now are in use on American farms. The fact that our own armed forces issued gas masks to protect the soldier in the field against these new gases in probable concentrations of about 25 to 50 parts per million, or less, indicates the serious effects which may be expected from failure to safeguard farm spray crews against them.

A few years ago we kept caterpillars out of fruit trees—we thought—by putting bands of cotton around the tree trunks. We exterminated flies by trapping them in sticky substances, or paying children a penny a dozen for swatting them. The country air was fresh, then, as advertised in song and story. The need for respiratory and body protection against pesticides that protect crops and farm animals against insects and other pests never entered the picture.

Today, to paraphrase an old song, "that pure country air ain't what she used to be." Unfortunately, pesticides that can kill more different insects on more different crops can also kill human beings. On the fortunate side, these powerful new materials can be used with complete safety, if the proper precautions are taken.

Users expose themselves to various concentrations of these organic phosphates—usually greater concentrations, be it noted, than a soldier might be subjected to in a "nerve gas" attack—in mixing the concentrated material with carrying agents for spraying, or in applying it. The same danger exists in mixing or applying highly concentrated dusts.

These substances enter the human system by various means—through skin absorption, through a mucous membrane, the mouth or the eyes, or by inhaling in the form of aerosols or dusts. No local irritation is noticeable to provide a warning. They are cumulative in effect and can be absorbed for hours or even weeks in light concentrations, before they cause serious symptoms.

These substances are called "nerve gases" because they affect the parasympathetic nervous system. Since they are anticholinesterase agents, they inhibit formation of cholinesterase. The lack of this enzyme permits unchecked production of acetycholine, which affects the parasympathetic nervous system. This results in constriction of the bronchial tubes, constriction of the eye muscles, edema of the lungs and edema of the brain tissue. It is obvious from these effects that we must have adequate human protection against the excellent new pesticides used to protect our crops and farm animals.

Protective Equipment

The manufacturers and formulators have done an excellent job from a safety promotional standpoint. They can provide complete recommendations on what to do, and what not to do, plus information of value to a doctor in treating accidental poisoning. The type of protective safety equipment to use is suggested and the user is furnished with an approved list from which to choose the kind he likes best.

This list of protective safety equipment is prepared by the U. S. Government Interdepartmental Committee on Pest Control, and it is always being brought up to date. However, since the revised list was issued the Committee has accepted a farm spray type respirator which, in the single unit, will protect the wearer against the harmful affects of H. E. T. P., T. E. P. P., Parathion, O. M. P. A., Systox, Dieldrin, Aldrin, and E. P. N. in outdoor spraying work.

There is a wide selection of respirators to choose from. Comfort for the wearer is an important consideration, and experience has taught that the best protection will not be effective if it is not comfortable. The user just will not use it.

Respiratory protection is of first importance, since breathing the vapors, aerosols or dusts directly into the lungs is perhaps the quickest way of contaminating the blood stream. Inhaling these pesticides can be prevented by use of suitable and adequate respirators especially developed for farm spray work and ac-

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And Lowering Big Insurance Costs

In a large Eastern rolling mill, a ramp from the production floor to a storage area above was so slippery from oil and grease drippings that a fork-lift truck could not climb the incline by itself. An unloaded fork-lift truck had to push the loaded one. Already a safety hazard, the slippery ramp also caused production inefficiency.

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In ALGRIP, tough abrasive particles (the same as used in grinding wheels) put hundreds of tiny safety brakes in every footstep—making it virtually impossible to slip. ALGRIP never wears smooth—heavy use only exposes new abrasive particles. The tough rolled steel in ALGRIP makes this floor plate stronger than other abrasive floorings. For safety that pays for itself, get the complete ALGRIP story by writing today for our new Booklet AL-15—without obligation.

At your request, an Alan Wood Steel Company safety engineer will call on you to show you how ALGRIP can be profitably used in your plant to lower insurance rates, raise production, and eliminate accidents.

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Other Products: A. W. SUPER-DIAMOND Floor Plate
Plates • Sheet • Strip • (Alloy and Special Grades)

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cepted by the Committee on Pest Control.

The respirators should be equipped with replaceable chemical cartridges for removing the vapors, and replaceable filter pads for removing mists and dusts. Filter pads and cartridges should be changed frequently during the working day, under extreme conditions; and daily under even more favorable conditions. Due to build-up of resistance in the filter pads, it may be desirable to change these more often than the cartridges.

Note of Caution

A full-facepiece industrial-type mask with a suitable canister is recommended for use when opening and dumping bags of these new pesticides, and when loading aircraft for spraying and dusting with them. This type of mask also is practically a "must" for spraying indoors or in confined spaces.

A note of caution may be timely here: A cab or umbrella over the tractor operator will help protect him from spray drift, but it is not a substitute for respiratory protection or protective clothing.

It is recommended that rubber gloves—not synthetic—either gauntlet or inverted-cuff with the inside of the gloves protected against contamination, be worn in handling these new pest-killers.

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Goggles or faceshields should be worn with the respirators for eye protection. Goggles of the wide-vision type usually can be worn without affecting the close fit of the respirator.

For head and body protection wet-weather garments of rubber are very satisfactory. A poncho will give protection to the rig operator. Boots should be of rubber, since canvas and leather take up and hold many of the pesticides.

Rubber clothing should be washed off immediately after a spray session. Only freshly laundered coveralls, socks and underclothing should be worn, and changed each day.

Hands, arms and face should be washed immediately after the worker leaves an area where the pesticides have been used. In addition, a shower or bath with plenty of soap is urged after mixing or applying the sprays or dusts, or after repeated handlings of these materials.

In Case of Exposure

We all know that even with the best of plans, accidents can and do occur. Without attempting to set forth a treatment in case of poisoning, it is important to list several practical suggestions about effective first aid.

An ounce of prevention is worth at least a pound of cure, here. Before using these pesticides for the first time it is urged that the user consult a physician, and be assured that he is familiar with the medical aspects involved in a case of dangerous exposure to these pesticides.

Since atropine is antidotal, it is advisable to arrange with a physician to have an emergency supply available for immediate use. He may instruct the user and allow him to administer the first dose pending the doctor's arrival.

If pulmonary edema is present, artificial respiration equipment should be used at once to combat it. The parasympathetic effect on heart and lungs is blocked by atropine. Weakness and muscular twitching, however, are not controlled by this antidote. Even with very serious poisoning, atropine can completely protect the airway, but muscular weakness may be so extreme that artificial respiration is needed. The acute emergency lasts 24 to 48 hours during which the patient must be watched continuously.

These valuable pesticides will always be toxic. The list of fatalities already includes chemical engineers, entomologists and others with a thorough knowledge of their potency, as well as the average farm hand. However, these pesticides can be controlled, and safely used, if safety precautions are observed.

Pictures by courtesy of Mine Safety Appliances Company.

For detailed descriptions of protective equipment see pages 87–212 in "Best's Safety and Maintenance Directory," 1952–53 edition.

The Industrial Nurse

Editor
Rosamond J. Webster
R.N., A.M., Ph.D.

Isoniazid

THIS product has had varied claims made as to its effectiveness in treatment of tuberculosis. Various experimental studies are being carried on in this country and abroad. A disturbing feature of a report on a study in England carried out by the Medical Research Council relates bacillary resistance to isoniazid. In this investigation it was found that 11 percent of the patients showed such resistance at the end of 1 month. By the end of the second month of treatment it had risen to 52 percent, while at the end of the third month the figure was 71 percent. Lack of progress against the disease, as assessed by radiological changes, was found to be related to the emergence of drug resistance. With the proviso that the emergence of drug resistances is a most serious problem affecting the use of isoniazid, the conclusion was drawn that, judging wholly from short-term results, isoniazid is a very effective drug in treating pulmonary tuberculosis; but given alone it is not more effective than streptomycin plus p-aminosalicyclic acid. In this country plans are being made to use this newer substance on ambulant patients.

Reducing 600 Pounds!

IT SEEMS fantastic to say that one individual—and that person a physician—could actually reduce his weight 600 pounds and live to tell the tale. There is of course, a catch. This particular physician is inclined to gain weight rapidly. In the effort to keep his weight down, he would fluctuate from his pattern of living which would involve hearty eating for a time followed by rigid dieting. He kept close records of experience, and over a period of years actually dropped 600 pounds. The moral of this tale is that proper reduction of the intake of food is the only logical and effective way of reducing weight.

The Journal of the A.M.A. recently carried an interesting article on the subject of physical medicine and obesity. It discussed baths of all kinds including hot baths, cold baths, hot showers and cold showers. Scotch douches, Turkish baths, Russian baths, steam baths and electric light cabinets were also mentioned. All of these have been recommended as weight reducers and have their devotees. The simple fact is that while hot baths can produce a transient loss in weight through the production of profuse perspiration, the loss of water from the tissues does not indicate that there has been a decrease in adipose tissue. The body will shortly regain the water loss. It has been estimated that in order to lose 1 pound of fat, a person would have to take 370 hot baths in which the body temperature would have to be raised 2 degrees for an hour each time. Massage, spot reducing, creams, lotions, bath powders, and many more are equally useless in weight reduction. The one and only sure way is to reduce the caloric intake on a balanced diet basis if health is to be maintained. This is essential for young people as well as for the middle aged.

The "Flu"

THE absentee record this winter has been high in many businesses, with the common cold, grippe and influenza as the apparent causes of employee disability. Medical science is still searching for ways of dealing with these conditions. Attacks do not leave behind a long-lasting immunity, so that those who have had a cold or influenza become susceptible again after a relatively limited period. The fact that epidemics of influenza tend to occur every 2 or 3 years gives some clue as to the short term of immunity. It is possible to have two attacks of influenza within a comparatively short time, but in that case it turns out that one has been attacked in turn by 2 influenza viruses known as A and B. There are scientific indications that there may also be a third virus group. Virus A and virus B produce respiratory disease which is clinically indistinguishable.

In 1949 a virus spread across Europe and did not seem to change in any of its characteristics, although it seemingly attacked millions of people. Then it disappeared, without scientific knowledge as to what

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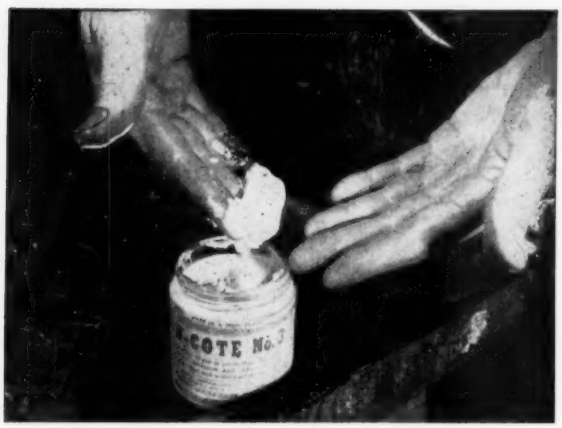

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The Boyer-Campbell Company

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(For further details, use Key # D-31 on free Inquiry Card on page 81)

happened to it. When the influenza virus again appeared, it was slightly different from the one studied in 1949. The disappearance of the virus between epidemics is a complicating factor which is being studied by many, including the Staff of the World Influenza Center. What happens when the virus reappears with the next epidemic is something which is extremely mysterious. Although influenza may disappear for a time in one country, it is always present somewhere. In the cycle in which it travels, the disease seems to come back to a country which has been comparatively free from it. Then a new wave of infections starts all over again. Following medical advice during an attack is the best suggestion that can be given affected workers. Perhaps an effective immunizing process may be available before long.

Changes in Workmen's Compensation

PROVISIONS for workmen's compensation benefits and payments are modified in many states from year to year. Those concerned with rates and payments for accidental injuries and occupational diseases should have readily available the current data relative to benefits in their own states. The U. S. Department of Labor has issued a pamphlet indicating revisions of laws through December, 1952. It contains revisions of laws previously listed in Bulletin No. 125 issued in September, 1950. Requests for copies of the pamphlet issued in January, 1953 should be addressed to the Bureau of Labor Standards, U. S. Department of Labor, Washington, D. C.

Maximum benefits for widows and children in compensation for death vary; the maximum is $20,000 plus in Wisconsin (maximum for widow $10,752; while maximum for widow and minor children may be in excess of $20,000). The minimum is $6,000 in Kansas. Laws in several states do not mention maximum payments. Most states stipulate maximum weekly payments to widows and to widows with children under 18. In the matter of permanent total disability, the maximum mentioned in the laws is $20,000 in Pennsylvania, down to $6,500 in Vermont. Weekly benefits range from a high of $42 per week for life down to $17.31 a week for life in Nevada, with additional benefits in specific cases, such as for vocational rehabilitation, constant attendant, and paralysis from spinal injuries. Maximum and minimum payments for permanent partial disability and temporary total disability also show a wide range of payments. Payments for the latter range from the period of disability to 156 weeks in West Virginia and 500 weeks in Virginia, Maine, Indiana, Michigan, 780 in Connecticut, to 1 thousand weeks, or more, in Rhode Island.

These figures are clear evidence of the high costs of industrial injuries in money, aside from the physical and mental suffering. Everybody loses—injured worker, his dependents, the employer, the community. That's why prevention pays.

A Real Accomplishment

IN times of national emergency, as World Wars I and II, it is inevitable that many workers are injured because of lack of time and opportunity to provide for their safety. The Government has had to emphasize speed in industrial production of the essentials of war during these difficult times. This emphasis holds true to a considerable degree at the present time. However, those concerned with high production records are also engrossed in worker protection through various teams of specialists—architects and builders, safety engineers, physicians, and others.

An example of real progress is an experience during 7 and one-half months of World War I and a longer period in World War II. Official reports indicate that during the former, 475 workers in American arsenals died and 17 thousand were disabled because of fumes from TNT and related compounds. These fatalities were the result of a lack of engineering and safety controls. However, the experience was most valuable and taught a severe lesson. In World War II despite the tremendous increase in production of munitions, close supervision of TNT operations by industrial hygienists succeeded in controlling the hazard so well that there were only 22 deaths in 35 months.

At present the high safety rate in the atomic energy industry is proof that even the most dangerous occupations can be made safe if industrial hygiene practices are followed. Of course the conclusion must be that if arsenals and atomic energy plants can achieve such a high degree of control, it should be much easier to do so in far less hazardous working environments.

This can be done, provided all involved—management, workers, nursing, medical, and safety personnel do their part.

Employee Recreation Booklet

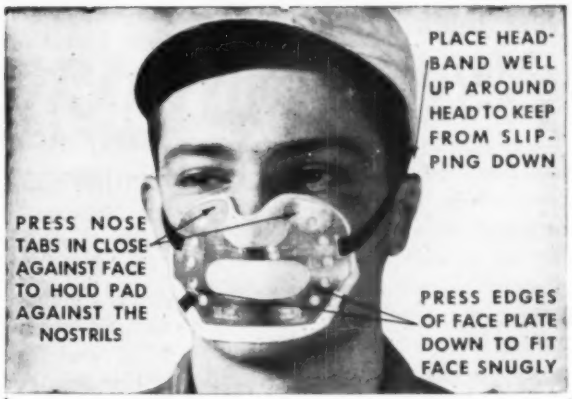
(Continued from page 48)

ployee recreation programs, leadership, financing and examples of constitutions for plant-centered groups are included in the booklet. The difference in organization of recreation in large and small plants is fully explained.

The booklet points out: "Although a plant-centered recreation program cannot and should not attempt to take the place of the community recreation program, there is a real need for an employee recreation program in many plants to supplement the activities of the community recreation agencies."

This publication is a special defense project prepared by the National Recreation Association as a participating member of the United Community Defense Services, financed through the United Defense Fund.

Single copies of the booklet may be secured from the National Recreation Association, 315 Fourth Avenue, New York 10, without charge.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New Book Traces Safety Development

A NEW book, *Safety for Greater Adventures*, has just been published by the Center for Safety Education, New York University, as a memorial to Albert W. Whitney for his pioneering contribution to the accident prevention movement. Many safety engineers, school and college administrators and insurance executives will remember Mr. Whitney's many safety activities as vice-president of the National Safety Council, official of the insurance industry, and organizer of the Center for Safety Education.

Edited by Herbert J. Stack, Director of the Center, the volume discusses Mr. Whitney's more important contributions to the safety movement and, at the same time, shows the development of the conservation activities of the insurance industry and the growth of industrial standardization.

The 125-page book may be obtained for $1.65 per copy from the Center for Safety Education, New York University, Washington Square, New York 3, N. Y.

Safety Achievements

THE Lorain, Ohio, Works of the National Tube Division recently completed 2,870,000 man-hours without a lost-time accident, it was announced by Robert Urquhart, general superintendent of this U. S. Steel Division plant.

The local plant frequency rate for the first month this year was .48, and the plant also is enjoying a proportionately low severity rate, with a mark of .01, as compared to an average severity rate of 1.16 for the entire steel industry.

Mr. Urquhart stated, "We try to impress on our employees the fact that a lost-time accident is costly to everyone concerned, but particularly so to the injured worker and his family."

THE Yale & Towne Manufacturing Company's Berrien Springs Division is the recipient of an honor award for completing one year's operation without a single lost-time injury to any employee.

THE F. H. McGraw & Company, constructers of the billion-dollar atomic energy plant at Paducah, Kentucky, has established a national safety record for 1952, according to reports from the National Safety Council. While the accident frequency rate for the general building construction field was 39.6 in 1952, according to the Bureau of Labor Satistics, and member firms of the National Safety Council had a frequency rate of 20.9, the McGraw company and its sub-contractors on the atomic energy project had a low frequency rate of 3.19.

F. J. Mayo, McGraw project manager at Paducah, praised the employees for their pace-setting safety record and especially lauded members of McGraw's Safety Department for their vigorous safety education program. C. H. Patterson, a veteran in the safety field, is head of McGraw's Safety Department.

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TRANSPORTATION SAFETY

Cars Approach Curves Much Too Rapidly

A RECENTLY completed driver behavior study by the New York State Department of Public Works indicates that design and uniform pavement markings alone will not solve the problem of maximum highway safety. In addition, drivers must exercise good judgment consistent with existing highway facilities.

In a report on the findings of a study of speed characteristics on vertical curves, presented at the annual meeting of the Highway Research Board, Bernard A. Lefeve, Director of the Bureau of Highway Planning, New York State Department of Public Works, said the New York study revealed that high speed was one of the principal factors in the majority of accidents taking place on vertical curves.

The findings are based on driver-performance data for free-moving passenger cars at the sites of 20 vertical curves on two-lane rural highways in New York State. The study consisted of a series of more than 2,000 observations taken since 1950, in which the speeds of vehicles were recorded at several points on either side of the crest of selected vertical curves.

Reduced Speeds

The study indicated that drivers do reduce their speeds as they approach vertical curves with short sight distances. However, the reduction in speed is not great enough to provide safe operating conditions. Apparently drivers do not believe that situations will occur at vertical curves which require them to stop, or they believe they can stop in a much shorter distance than is actually required.

Mr. Lefeve said "it is apparent that the majority of drivers of passenger cars do not decrease their speed appreciably when confronted with restrictive sight distance on vertical curves," and, because higher powered passenger cars and increased speeds are likely, "adequate sight distance for safe driving conditions should be provided in new design to reasonably meet this anticipated speed demand."

Continuing, Mr. Lefeve said; "If critical situations do arise at vertical curves which might require a driver to stop as an object comes into view, a minimum sight distance of approximately 325 feet is required for the speed at which the average driver travels on a main rural highway, a sight distance of approximately 400 feet is required to meet the needs of 85 percent of the drivers, a sight distance of approximately 470 feet is required to meet the needs of 95 percent of the drivers."

Sight Distances

"In other words," Mr. Lefeve concluded, "sight distances of less than 500 feet to a 4-inch object on vertical curves have no place in modern highway design except possibly on local or mountainous roads where the desired speeds are normally lower." In the event it becomes necessary to design for these lower speeds, proper signing and pavement markings should be used.

The driver behavior study was carried on by the Vehicle Operation Section of the Department's Bureau of Highway Planning, in cooperation with the Highway Transport Research Branch of the Federal Bureau of Public Roads.

Course for Dispatchers and Warehouse Foremen

THE fourth course for Dispatchers and Warehouse Foremen will be held from April 27 through May 1 at the Kellogg Center for Continuing Education at Michigan State College in East Lansing. As usual, it will be sponsored by the college and the Michigan Trucking Association.

Outstanding success of previous courses has led the committee in charge to set up a five-day program very similar to that of the third course last December. The topics of speakers will include: "Importance of Motor Carrier Transportation," "Types and Functions of Equipment," "Weight and Load Regulations," "Job Duties," "Employee Relations," "Fire Prevention and First Aid Fire Principles," "Essentials of Telephone Usage," "Qualifications of an Effective Supervisor," "Public Relations," "Customer Relations," "I.C.C. Regulations," "Job Training," "Employee Motivation," "Attitudes and Morale," "Legal Liabilities," "Department Relations," "Routing and Scheduling," "Accidents and Emergencies," "Care of Equipment," and "Personnel and Property Security." In addition, there will be demonstrations, educational films, and other activities.

All persons and organizations interested in this fourth course should contact Prof. Bernard I. Loft, Continuing Education Service, Kellogg Center, Michigan State College.

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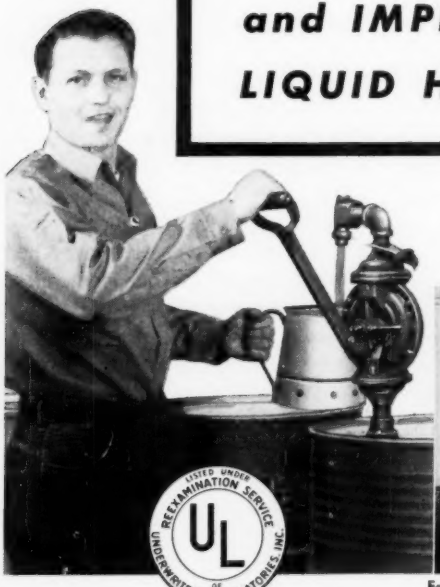

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(For further details, use Key # D-35 on free Inquiry Card on page 81)

Highway Patrols Needed

RURAL highway patrols enforcing traffic laws against speeders and other dangerous drivers must be increased immediately in all but a few states to head off "shocking increases" in deaths and injuries in traffic accidents.

The most conservative estimates show that from 5,000 to 7,500 more highway patrolmen are needed in the nation as a whole to protect the public more adequately against accidents caused by drivers violating traffic laws, according to Thomas N. Boate, manager of the accident prevention department of a leading insurance association. He added that they should be assigned entirely to rural highways, "where they will do the most good' in reducing accidents.

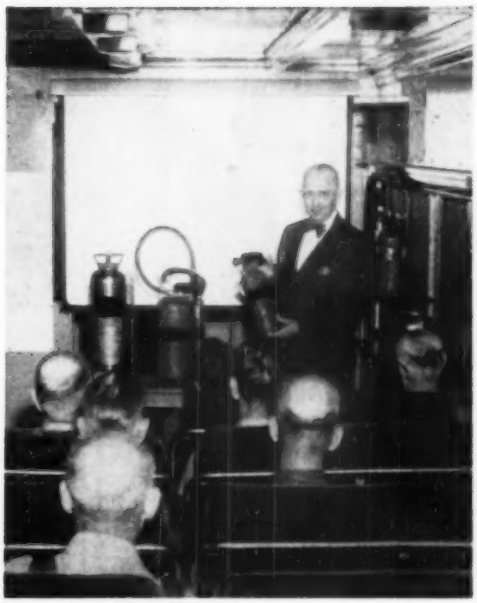
Present overall strength of state patrols assigned to traffic duty in rural areas, where two-thirds of U. S. automobile fatalities and almost half of the injuries occur, is about 10,000 men, he said. He added that total personnel of state highway patrol and police forces, which usually have numerous other duties besides patrolling rural roads, numbers about 14,000 men.

State Action

Mr. Boate said concerted action by the states to strengthen enforcement patrols this year offers a good promise of "putting a check-rein immediately on the drivers whose reckless acts cause most of the traffic tragedies." Because all other efforts to bring down the nation's highway accident toll have fallen far short of their goals of immediate results, he added, increased manpower for putting teeth into the laws should "be given a fair trial at last."

As soon as a "get-tough policy" in traffic safety law enforcement begins to prevail throughout the nation to help protect the public from the reckless acts of drivers on the open road, more motorists will begin to obey laws against speeding and other safe driving rules, he said, and fewer accidents will result.

TRAIN FOR SAFETY



Interior of safety car is a theater for demonstrations and film showings. It also contains many safety exhibits.

Yard workers watch demonstration of action of dry chemical portable extinguisher on pan of gasoline. Blaze was snuffed out in seconds.

Railroad instruction car carries safety to more than 12,000 employees.

★ ★ ★

THE instruction of any major railroad's employees in fire fighting and safety procedures poses a difficult problem. Personnel are scattered along thousands of miles of tracks; many employees are more-or-less constantly on the move; every type of fire hazard is included in railroad operation; and the value of property to be protected against loss or damage runs into millions of dollars.

In the fall of 1948 this problem faced R. S. James, newly-appointed superintendent of the Denver & Rio Grande Western Railroad's reorganized Department of Safety and Fire Prevention. Working with Harry H. Keas, Walter Kidde & Company's Denver distributor, he developed a solution to the problem. It was a self-contained theatre on wheels, the X-200 Safety Instruction Car.

Earlier in the year, the Rio Grande had used a standard railroad car equipped with a projector and screen to show travel films at the Railroad Fair. The car was turned over to Mr. James' department as an experiment in the use of audio-visual instruction to reduce fire and accident losses.

By late 1950, the "experiment" had become such an outstanding success it was replaced by the modern, new X-200. Since that time, the X-200 has visited almost all of the Rio Grande's operations, bringing practical safety instruction in entertaining form to the employees. Workmen at even small, isolated locations have had an opportunity to hear an expert discuss fire and accident prevention, to see graphic examples of fire control on the screen and to actually participate in fire fighting demonstrations.

The car is equipped with its own butane generator to enable it to operate in isolated areas, independent of local power supplies. Its film library, which includes many fire safety films, contains more than 40 reels in all. Subjects range from fire control to atomic

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HOWARD & WEST STREETS
BALTIMORE 30, MARYLAND

(For further details, use Key # D-36 on page 81)

war survival tips. A number of general interest films, such as newsreels and travel films vary the programs.

Sleeping quarters are built into the projection booth for the use of the projectionist while on the road. Other special equipment includes a special seating arrangement with a side aisle to keep incoming spectators from interrupting a movie in progress. The car is air conditioned and is equipped with light-tight windows.

Fire Equipment

Mr. Harry H. Keas, a partner in the Thomas Hayden Company, and Mr. James selected 9 demonstration extinguishers for use in the car's programs. They include water, soda-acid, carbontetrachloride, dry chemical, foam and carbondioxide, and cover virtually all models in general use by the line. Extinguishers scheduled for recharging are sent to the car and used in the fire-fighting demonstrations.

In 1951, first year of the X-200's operation, 2 hundred sessions were held in the car. More than 5 thousand employees attended them, an average of 27 employees per meeting. In 1952, the average attendance had jumped 47 percent per meeting, an interesting demonstration of the popularity of this type of instruction.

Safety Demonstrations Popular

Exactly how many dollars and work hours—and perhaps, lives—the X-200 has saved is hard to determine. But it definitely has turned many an employee into a safer workman. Its films and lectures and demonstrations have certainly been instrumental in preventing fires and accidents on the job and in employee homes. And, this year alone, more than 12 thousand school children and members of civic clubs in small towns along Denver & Rio Grande's right-of-way have passed through the X-200's doors and witnessed its message of safety.

Pictures by courtesy of Walter Kidde and Company, Inc.

Korea Safer Than American Highways

THIRTY six civilians are injured in motor vehicle accidents on the home front for every U. S. serviceman wounded in battle in Korea, a leading insurance association announced recently.

Over the two and one half years of war in Korea, official Department of Defense figures listed 93,000 servicemen in the wounded column of the casualty lists. For the same period of time, the association reports that injured victims of automobile accidents totaled 3,350,000, or 3,602 percent more than those injured in battle.

Vehicles Responsible for More Casualties

The association, which first discovered that the millionth victim of the automobile would die in December, 1951, took a daily average for the 30 months since the Korean War began and found that 102 servicemen have been wounded to 3,673 civilians who suffered injuries in automobile accidents.

"That the automobile has outstripped war as a killer, is now recognized," said Thomas N. Boate, manager of the accident prevention department of the association. "In the span of less than an average man's lifetime, the automobile has killed 1,075,000 persons, while the total number of battle dead in all of our wars, according to the latest statistics, reached 1,009,000. This is now some 64,000 short of the automobile's 52 year toll and only a year ago the figures were about equal.

"The association by no means wishes to minimize the tragedy of American youths and men who are being wounded in Korea. It is also tragic to learn, however, that many times more good American citizens—men, women and chil-

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Neoprene "CORK-GRIP" Soles & Heels

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Will look better, be lighter in weight, and wear longer.

Oil-Resistant & Non-Slip
Made in black or brown 15, 18, 21 iron, with heel to match, either Wedge or straight Breast.

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CHAS. E. HICKS Waltham, Mass.

MANUFACTURED AND DISTRIBUTED BY **QUABAUG RUBBER COMPANY** NORTH BROOKFIELD, MASSACHUSETTS

(For further details, use Key # D-37 on free Inquiry Card on page 81)

dren—are being killed in traffic accidents without comparable demands that this national menace be stopped, too.

"The tremendous disproportion between traffic and war casualties can be traced directly to sheer carelessness and official negligence. If a foreign enemy were to kill 38,000 persons and wound over 1,300,000 more, as automobile accidents did in 1952, the nation would be rightly and righteously outraged. The fact that the careless acts of American citizens themselves cause such a catastrophe every year does not minimize either the personal or national loss that grows worse every year.

"The economic loss that results from motor vehicle accidents is almost immeasurable. Statisticians figure that each year the economic loss due to traffic accidents exceeds $3,400,000,000. Public officials and safety specialists estimate that the real loss, if it could be measured, would be nearly twice that figure. The magnitude of such waste is brought home when we remember that the amount of money appropriated to run the nation's vitally important Atomic Energy Commission during the last fiscal year was less than one half of even the estimated economic loss resulting from motor vehicle accidents during the same year.

The Sixth Column

"An enemy from overseas could hardly ask for a better ally than this sixth column—this waste due to auto accidents—which has joined the fifth column of spies and saboteurs as a means of weakening our country in a time of national emergency. Accident prevention is the duty of every citizen today. Certainly it is a sad commentary on the driving habits of Americans, that automobiles kill and injure so many times more persons than war."

(For further details, use Key # D-38 on free Inquiry Card on page 81)

Driving Signals

THE North Carolina Motor Carriers Association launched a recent Courtesy and Safety Campaign with an appeal to motorists to know and use proper signals for turning and stopping.

Driving Signals, the title and theme for one month of the campaign, was selected because increased stopping distances on slick surfaces and reduced visibility make quick stops for an unexpected maneuver by another vehicle either impossible or very dangerous, said Mr. M. Webster Henry, NCMCA President.

The trucking official explained that on making turns, plenty of time should be taken to move into the lane nearest the right or left direction of turn, and begin signalling well before the turn. Gradual movement prevents collisions with other vehicles.

Learning . . . . . the hard way

GOGGLES FOR THAT TOO?

SAFETY goggles and glasses are protection against all sorts of hazards. They are the only thing that stands between you and eye injury many times. Many workers are inclined to think that goggles are only for things like welding or jobs in which heat, light and molten metal or flying scrap are dangers. They're wrong. An employee was helping dump baroid into a hopper. A short time later he experienced discomfort in his right eye. About 15 hours later, the eye was so swollen and irritated that he could not report for work the next day. Goggles are protection against chemicals too . . . and dust. Wear them even when mixing mud!

STOP IT!

AN EMPLOYEE was wiping a field pumping unit when his wiping rag caught on a grease fitting of the drive shaft. It wound around the shaft until the clutch on the unit had to be knocked out with a wrench to disengage the engine. Luckily, the man managed to pull his hand back in time or he would have been injured instead of just damaging the machine. The solution here is so obvious it is painful to relate it . . . though not as painful as the injury would have been . . . stop any machine before touching it with anything . . . especially when cleaning it.

DON'T PUT YOUR FOOT IN THE NOOSE!

THIS could happen to anybody, but in this case it was a truck driver. He was directing the loading of pipe on his truck. His foot became entangled in the tag line and he was pulled from the truck, fracturing his hip. Keep handling ropes or cables away from the loose ends of lines coiled up and well away from yourself. Don't work so carelessly that you can step into a loop or let the rope get between your legs or wrap itself around your body. You'll be executed without a trial.

MORE THAN ONE WAY TO SKIN A CAT

A MEAT cutter slipped on some fat on the floor, and fell, injuring his back. He will be away from his job for a long time, and may even have a partial disability. Normally there is a simple answer to the problem of slippery floors. Non-slip material can be placed on the floor or the floor can be roughened to provide safe footing. However, in this case this is not possible since sanitary regulations forbid roughening or placing abrasive material on the floor in food-processing plants. The solution is to reverse the usual process. Instead of putting the abrasive material on the floor it can be stuck on the soles and heels of the workmen's shoes. The same abrasive strip material, with adhesive facing, is used that is also used on stair treads, slippery sidewalks and truck running boards.

WHAT WAS HE THINKING OF?

A CHEMICAL operator lost the end of his thumb, all of his second and third fingers back to the wrist and his little finger, when he caught his hand in a rapidly revolving air blower. He had been changing the dust bag on the machine and had gotten quite dusty. To remove the dust he used the air blast from the blower, and finished the cleaning job by thrusting his hand into the short fan discharge to remove the dust from his hand. In studying this case safety officials found it hard to believe that an individual would stick his hand into the horizontal discharge of a blower deliberately. It is believed that he must have been thinking about something else at the time. It is always a good idea to guard all moving parts of machinery against the unthinking individual. Apparently this man was one of those individuals.

The Fire Front

Check Up on Your Fire Defenses

EFFECTIVE fire defenses can be maintained only by year-round vigilance, but there are certain seasons of the year when special attention should be given to fire protection. During the spring months many communities celebrate "Spring Clean Up Week," emphasizing the need for cleaning out old rubbish and, checking up on potential fire hazards. The industrial community too should initiate programs to clean up the premises and double check its fire prevention and extinguishing equipment. Fire alarms and extinguishers must be inspected frequently to make sure that they are in working order. This is a good time to make a double check and also to see that the fire fighting equipment is available in sufficient quantities for the hazards involved.

Some practical suggestions for reducing fire losses have been issued by the National Board of Fire Underwriters. These suggestions emphasize the need for removing unnecessary fire hazards, controlling especially flammable products and processes, and maintaining sufficient extinguishing equipment in a "ready" state at all times.

Plant Housekeeping

Maintain good order and cleanliness. This is the first step towards effective fire prevention. Give particular attention to the shipping and receiving rooms; prevent the accumulation of excess packing material and empty boxes.

Wherever excelsior, papers, straw or other combustible materials are used for packing, keep only a day's supply on hand at a time in a box or bin, lined with tin and provided with a counter-weighted door having a fusible link to assure automatic closing in case of fire.

Use metal waste cans as receptacles for such materials as oily or soiled waste, rags or excelsior, employed in rubbing down oil finishes. Every day before closing, burn under the boilers all such material as is past its usefulness.

Paint, varnish, and oil fillers usually contain linseed oil which will oxidize, heat, and set fire to rags, excelsior, or other similar combustibles used for rubbing down or wiping up these materials. Do not let such combustibles lie neglected for even an hour. Remove from the buildings daily to a safe place all combustible waste material made in manufacturing unless it can be burned at once.

Do not permit the accumulation of any waste combustible material near buildings, especially those of wooden construction. Shingles or other refuse from the building, waste papers, old lumber, and empty boxes are sometimes neglectfully allowed to accumulate in such places.

Keep dried grass, weeds, and brush cleared away from buildings, since a locomotive spark, match, or cigarette may ignite these and burn the building.

Provide metal lockers for the clothing of employees. These minimize the danger of a hot pipe left in the street coat or a bunch of waste in the overalls' pocket.

Locate dressing rooms in accessible places where fire can easily be controlled.

Heat and Power

Keep the boiler room free from accumulations of combustible refuse. Never place any combustible material on boilers, ovens or flues to dry. Do not permit processes requiring use of flammable materials to be carried on where there are heating devices with open flame.

Where steam pipes pass through or close to woodwork, install them with a clear space between the two and prevent lint and light combustibles from accumulating there.

Do not use stoves. In practically any factory today the steam or hot air system can be extended to all parts.

If the back of the hand cannot be held without discomfort in firm contact with woodwork exposed to heat of flues, boiler settings, or other heating devices, conditions are unsafe. Do not attempt to remedy by covering with metal, which simply transmits the heat and prevents the condition from being seen. Use sheet asbestos and metal with an air gap between the material and the insulation.

Soft coal, in piles, often heats spontaneously to the ignition point. Never imbed wooden posts in it but support any buildings on brick

SUPERSTITIOUS

. . . . about 3 on a match?

Desmond Dribble, rising young executive, lit cigarettes for the boss, the boss's daughter and himself —*on one match.*

Next morning the boss took a bad prattfall on the newly waxed floor of his office. Before he was whisked away to the hospital, he pointed an accusing finger at Dribble and shouted, *"You're fired! And stay away from my daughter, too!"*

Dribble did some hurried research. Bursting into the boss's room, he said, *"Don't blame the match, boss. It's our floor wax. Yours was the thirty-second slip-fall we've had in the past 10 months.*

"Know something else? Floor maintenance costs you a fortune in labor and materials. I've taken the liberty of calling in a LEGGE *Safety Engineer."*

Within a few months Dribble was vindicated. With LEGGE Safety Polishes, slip-falls stopped. And maintenance costs dropped to almost half. Because the LEGGE Polish stayed on the floor *8 times* as long as wax, without the need for stripping and reapplying.

Dribble? A promotion and a trip to Niagara with the boss's daughter. Just before they left, the boss lit cigarettes for them. Lit his own, too—on the same match.

• • •

Superstition aside, we'll be glad to show you how LEGGE *Safety Maintenance prevents slip-fall accidents, saves you money. Clip th coupon today for full information. Walter G.* LEGGE *Company, Inc., 101 Park Ave., New York 17, N. Y. Branch offices in principal cities. In Toronto, J. W. Turner Co.*

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YOU'RE SAFE WHEN YOU HAVE LEGGE TO STAND ON

LEGGE SYSTEM of Safety Floor Maintenance

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- ☐ Send me your FREE booklet, "Mr. Higby Learned about Floor Safety".
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Firm_____

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City_____ Zone_____ State_____

(For further details, use Key # D-39 on free Inquiry Card on page 81)

piers or iron columns protected with concrete.

Provide good ventilation in any coal storage building to prevent accumulation of gas.

Oil or shavings used as fuel should be stored as advised by the standards of the National Board of Fire Underwriters.

For proper lubrication, provide good oil and make the bearings readily accessible at all times; this will tend to prevent their neglect and to avoid accidents.

Although the number of fires can be materially reduced by proper preventive precautions, they cannot be entirely obviated and it is therefore necessary to consider means of extinguishment.

While the means and methods for fire protection usually vary with individual cases, there are both automatic and hand-operated devices of approved design and character, which, when properly installed, maintained and handled, will serve to good purpose in fire extinguishment.

When properly installed, with an abundant and constant water supply at proper pressure, and the equipment maintained in a constantly operative condition, the automatic sprinkler has proven itself to be one of the most reliable and satisfactory fire extinguishing devices, being suitable for effective service in practically every class of structure and under nearly any condition of fire hazard arising from causes incident to occupancy or processes. It is therefore urged that such protection be installed in every structure where the nature of the occupancy is not such as to render these devices inoperative or ineffective.

When properly located and supplied with water, casks and pails are of great value in the early stages of a fire and, if intelligently used, frequently prevent serious loss.

Fire Extinguishers

Like fire pails, chemical extinguishers are of decided value and have the advantage of enabling the operator to direct an efficient stream immediately upon places which cannot be reached with fire pails.

Standpipes, when located in accessible positions and under proper pressure, with hose and nozzle attached, serve well in the control of more advanced fires, provided the operator retains control of his faculties sufficiently to "stay by" the appliance and intelligently direct the stream delivered.

For ordinary conditions, 1½-inch linen hose with ⅜-inch nozzles is advisable on inside standpipes. Such standpipes should not be less than 2 inches in diameter, and should be so placed as to provide serviceable streams without requiring too great length of hose. The friction loss of pressure is high in linen hose.

Fire pumps are a very efficient means of fire protection when properly designed for the special pur-

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3 Minutes to read this booklet.

4 Minutes to use the FREE JUST Proof Kit.

JUST is the complete Cleaner, Disinfectant, Sanitizer and Deodorant that does *all four* jobs quickly and in ONE OPERATION.
In 7 short minutes, you can prove to yourself, as thousands have done, that JUST saves money, material and man hours; provides healthier safe work areas.

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CITY _____ ZONE ____ STATE _____

ATTENTION OF _____ TITLE _____

(For further details, use Key # D-40 on free Inquiry Card on page 81)

pose and situated in a structure separated from the general plant, with a reliable steam or electric supply; there should be a sufficient water supply to assure continuous operation for a period of not less than one hour's duration at full capacity. Various types of fire pumps may be used, when properly installed, but it is not advisable to buy one for fire service except of a type designed expressly for that purpose.

Ordinary trade pumps, while efficient for general service, are seldom reliable under the stress of fire demands.

Fire hydrants, whether public or private, should conform to the National Standard, with a barrel of not less than 6 inches in diameter, and be fed from a service main of not less than the same diameter forming a complete circuit of the system, without dead ends, meter connections or other obstructions to the free flow of water, and be located at a distance of not less than 50 feet from the buildings to be protected.

Hose connections or outlets, should be of the National Standard pattern unless the city outlets differ from it, in which event the outlets on private equipment should conform to the latter.

The quality of hose used is important, as the efficiency of fire streams depends upon the pressure of the nozzle. Good quality rubber lined hose, 2½ inches in diameter, reduces this pressure only about 14 pounds per 100 feet of hose, while with ordinary quality of hose on the market and in use, such loss of pressure may reach 25 or more pounds per 100 feet.

Hose for use on hydrants and other devices supplying streams on the outside of buildings should be of not less than 2½-inch diameter, with nozzles of 1⅛-inch smooth bore pattern.

Underground piping should be laid in complete circuit and, where the system is extensive, should be gridironed in order to secure good circulation. Pipe sizes of less than 6 inches in diameter should not be permitted in any equipment.

"Fire-Chief Finished"

WELDING CURTAINS—SALVAGE COVERS

to confine the welding operation to a given area

used to protect machinery, and other equipment from water, dust and snow.

MADE OF CANVAS

impregnated with Hooper's Fire Chief treatment under their patent which carries the Underwriters' Laboratory seal.

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MANUFACTURERS OF REEVES STRETCHER

Ridge Ave. at Green — Philadelphia 23

"If It's Made of Canvas, We Make It"

(For further details, use Key # D-41 on free Inquiry Card on page 81)

a new high in... Safety

Dayton Safety Ladders, with exclusive "safety level" working platform, make high jobs "ground safe". Check the "big 6" features that make Dayton your best buy:

1. Rail-guarded "Safety Level" platform.
2. Locks in place automatically.
3. Rubber safety shoes.
4. Light weight—great strength.
5. Economically priced.
6. Complete size range 3' to 16' in height (to platform).

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Dayton Safety Ladder Co., Dept. G
2339 Gilbert Ave., Cincinnati, O.

Gentlemen: Please send free literature, prices, etc. on your Model A Safety Ladder.

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Dayton safety ladder co.

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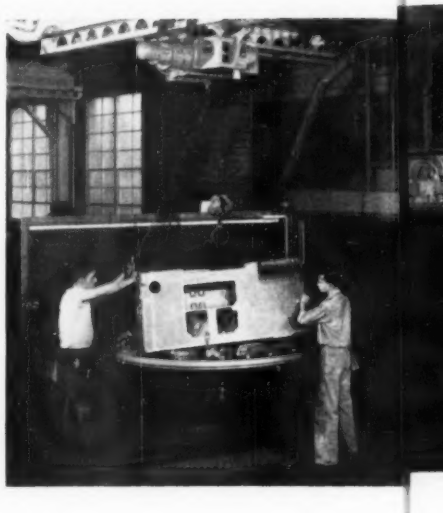
In Canada—Safety Supply Co.—Toronto

(For further details, use Key # D-42 on free Inquiry Card on page 81)

In expanding its production facilities, the Monarch Machine Tool Co. also gave a lift to safety and maintenance.



PLANT EXPANDS—

IN the recently completed plant expansion at The Monarch Machine Tool Co., Sidney, Ohio, 53 thousand square feet in new manufacturing and storage areas has been added to bring the present plant total up to 308,000 square feet. The project, also embraced a revitalization of materials-handling functions, an integration of equipment and methods for higher efficiency in existing areas, and their coordination with newly purchased equipment installed throughout both old and new production areas. Adding this much area, and the lights and machines to make use of it, has substantially increased the plant electrical load. Provision for this increased power demand, and for future requirements, has been made in both power and lighting systems. The addition of the new manufacturing and storage area has also increased plant-heating requirements by approximately 3 million btu per hour.

Also 25 percent of the existing plant and facilities has been modernized. The plant as it now stands is 930 feet long, and, at its widest part, is 386 feet wide.

The new layout features unidirectional flow of materials through much new production equipment; redepartmentalization; abundant materials handling equipment, and adequate heat, light and service facilities.

The new construction was a relatively straightforward job of erecting walls and roof over ground not previously incorporated in the plant's production area. It was work which could and did proceed without interrupting manufacturing operations.

The changes which had to be made along the west side of the plant were of a different order and dictated by the much greater size and weight of the new right angle lathes to be built there as compared to the size and weight of the other types of lathes in regular production.

Floors and columns of this section of the plant had to be greatly strengthened and the existing roof raised to the high bay level before the area could be equipped with the necessary facilities for handling the production and assembly of the new lathes.

There was also the question of maintaining uninterrupted production in adjoining bays and avoiding so far as possible even temporary lay-offs of any of the plant's working force.

As a consequence, an unusual method of erection was used for the expansion and modernization of this west side of the plant. At greater construction expense, and with problems that would not occur with normal construction methods, a steel shell was thrown up over the sawtooth roofs of 7 existing bays. This shell was constructed with a ceiling height corresponding to that of the high bay of the main building structure, and the last stages of its completion timed to coincide with the regular 2-week plant vacation shutdown of early summer during which the last vestiges of the former structure could be removed, the old production machinery relocated and the necessary new equipment added.

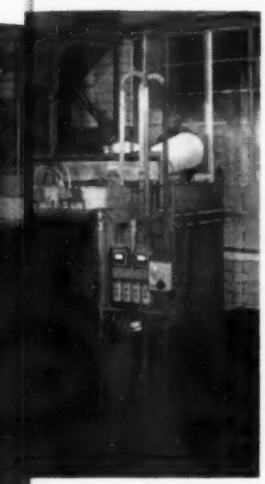
New Production Plan

Problems of production, erection, inspection and test are greatly multiplied by lathe designs which feature highly flexible operation in units covering a broad capacity range.

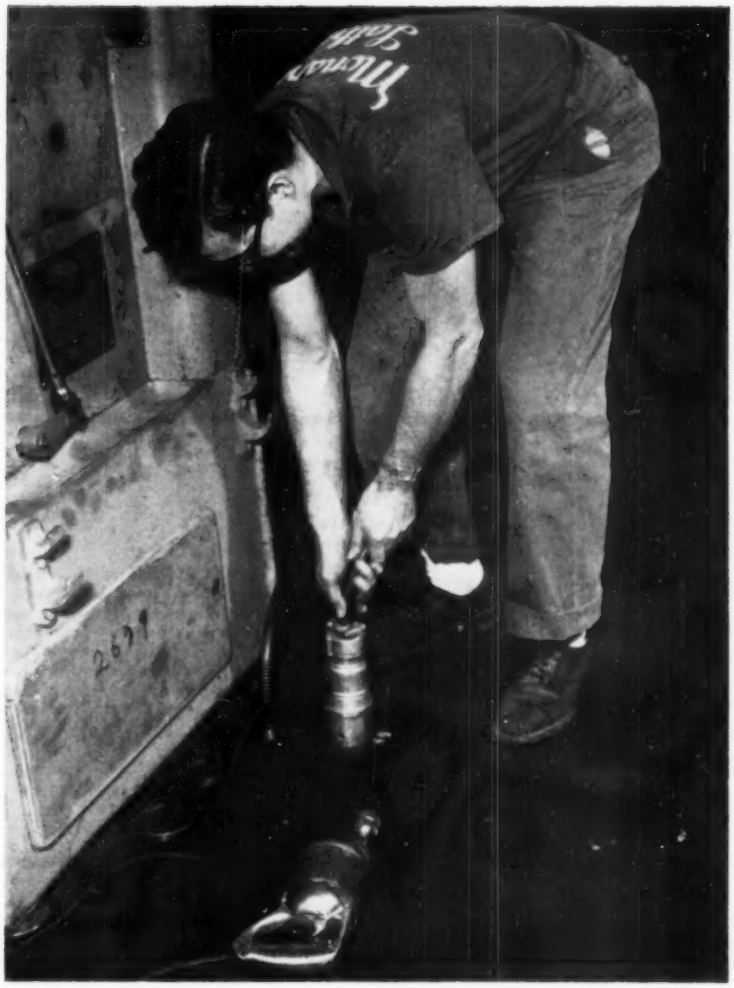
Realizing the faults in work routing methods in general and in materials handling procedures in par-

LEFT — Alternating and direct current are distributed by this board which carries 100 receptacles for as many plant floor outlets.

RIGHT—Floor outlet contains plug receptacle which permits AC and DC combinations. Outlet also has connections for electrical hand tools and compressed air tool.



LEFT—Castings are cleaned by large capacity shot blasting machine.



SO DOES SAFETY!

ticular, the company has spent considerable time in completely revising its machine shop layout. Where formerly partially-worked materials had to be shunted back and forth between machining departments—sometimes several times—they are now moved progressively from one department to another. In the new plan, machines have been taken to the work, instead of the work being taken to the machines.

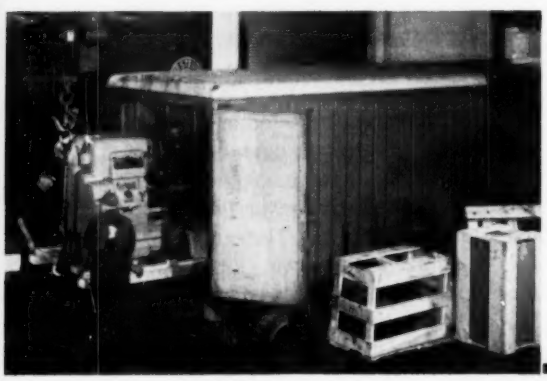
To implement this change, machine tools that had previously been grouped by type and function, have been relocated throughout the manufacturing area and augmented by new machines. Production of a lathe is no longer thought of in terms of one manufacturing procedure. Instead, many separate manufacturing departments have been set up; each with responsibility for machining and inspecting a single major component (such as headstocks, tailstocks, aprons, carriages and beds). As many machine tools as are required for each of the individual manufacturing units have been assigned to that unit, and its floor area proportioned accordingly.

As the new departmental idea took form, it was apparent that new ideas of production could also be incorporated. The result has been the installation of basically straight-line production methods. Raw materials—castings, forgings and bar stock—enter the building from the south, progress through the various production departments and emerge from the north end of the plant as finished lathes. The individually manufactured major components, and the lesser parts and accessories come together in the erection area at the north end of the building

UNLOADING — Small car crane unloads castings in storage yard. Castings are then reloaded on to four-wheel buggies or platform trucks by the cranes and towed into the plant by a tractor.

PROCESSING — Four roller conveyor lines are used in moving small castings through primary painting operations. Roller transfer tables at each end of the conveyor lines facilitate the transfer of parts from one line to the other.

ASSEMBLY—Overhead cranes, besides transporting materials, are used to lift any large parts that must be handled during production of machinery.



SHIPPING — Finished lathes leave the plant either by rail car (at the left), or truck. Note crane is also used here.

where they are assembled, inspected and tested as complete machines.

Basic to this straight-line flow of materials is a 930-foot middle aisle that stretches from one end of the manufacturing area to the other. Overhead cranes serve this 53-foot wide manufacturing bay. Also available for use with these overhead cranes are many smaller gantry cranes. In many instances there is not one but several choices of equipment for any given lift. This reduces waiting time and assures uninterrupted production.

Steady production is one of the greatest benefits accruing to the new layout. Little space is taken up with parts storage between operations. No more than enough extra parts are in progress at any one time to keep operations moving without interruption. Also, since materials flowing through the main production and individual manufacturing areas are always headed in the same direction, much waste motion and lost time have been avoided.

Also to clear the manufacturing area of obstructions, the main stock room for most purchased as well as manufactured items is located in an 80-foot by 268-foot basement area immediately beneath the erection area. Reached by an elevator, this stock room, with bins from floor to ceiling, contain parts stored in such a way that trips for them seldom require stops at more than one bank of bins. Stock in these bins is replenished when the number of units reaches a set minimum—determined by the lead time required for replacement. Quantities are based on lots that are economical to produce or purchase. Other areas below the manufacturing floor level house the heating boilers, the power transformers, and a special erection floor power transfer panel.

Materials-Handling Equipment

Materials handling—often called industry's "last frontier" remaining for profitable exploration in cost-saving and efficiency improvement —is one of the key points of a thor-

ough-going expansion and modernization program.

The materials handling equipment is overlapped in such a way that it is completely integrated with the production process. For example, wherever a lifting job must be done, whether inside or outside the plant, there is always at least one mechanical aid at hand to assist.

Castings are trucked to the plant from various foundries. A small car crane unloads the medium and small size castings and they are stacked in the casting storage yard at the south end of the plant. Beds and other large castings are unloaded from the trucks by an outside, tram-rail crane; then stored within the crane rail support columns. Castings are loaded on four-wheel buggies or platforms by the outside cranes and towed into the plant by tractor as needed.

Tracked Dollies

Small and medium-sized castings are delivered to a large shot blasting machine just inside the plant where they are completely cleaned prior to protective painting. Hand grinders are used to remove casting irregularities. The bed frames are unloaded onto double, tracked dollies by one of the overhead cranes in the main bay. Because they must accommodate several different sizes of beds, these dollies are not connected. Beds remain on them during all hand cleaning and painting steps.

Two water-bath paint spray booths are used; one for small and the other for medium sized castings. Small castings are moved by hand on metal grates that travel on fixed-roller conveyors. There are 4 conveyor lines, one of which passes through a paint spray booth.

Across both ends of all 4 conveyor lines run floor level tracks that support and guide roller transfer tables. These are slightly larger than the grates on which parts are carried to facilitate transferring grated loads from line to line. The spray line conveyor is broken by a 360-degree turntable in the middle of the booth. Medium sized castings are handled at the other booth by "mules" or overhead cranes.

From the painting stage on, the handling of the parts is entirely determined by their size and the quantities in which they are required. They are handled individually, loaded into tote boxes or staked on platforms. Large, individual parts can be moved by any of the numerous cranes throughout the production area. The tote box or platform loads can be transported by platform truck, fork lift truck, hand "mule" or, in some instances, tracked dollies.

Cranes Versatile

Cranes are used for many operations besides transporting materials. At any point during the production process where large parts must be

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—with *AMERICAINE AEROSOL spray dispenser

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No. 495 Burn Kit Complete—$10.85 ea.

CONTENTS

4 No. 110	4" Bandage	per C	35.00
4 No. 111	24" x 72" Gauze Compress	per C	45.00
1 No. 3-170	Americaine Aerosol Dispenser		4.25 ea.

No. 492 Burn Kit Complete—$29.88 ea.

CONTENTS

9 No. 110	4" x 6 yd. Bandage	per C	35.00
9 No. 111	Gauze Compress 24" x 72"	per C	45.00
2 No. 131-M	Americaine (¾ oz. tube)		1.35 ea.
3 No. 101	4" Bandage Compress	per C	37.00
4 No. 102	2" Bandage Compress	per C	58.00
2 No. 3-122	Americaine Liquid (2 oz. bottle)		1.65 ea.
1 No. 3-170	Americaine Aerosol Dispenser		4.25 ea.
1 No. 3-120	Americaine ½ lb. jar		4.00 ea.

Send for Bulletin 320

*Reg. Trade Mark of Americaine, Inc. Reg. U. S. Pat. Off.

SAFETY DAVIS DIVISION

DAVIS EMERGENCY EQUIPMENT CO., INC.

64 Halleck St., Newark, N. J.

(For further details, use Key # D-43 on free Inquiry Card on page 81)

Plant Expands (Cont'd)

handled, they are lifted by crane. Cranes are used to position large parts on the machine tools, to help during the fitting of parts and to facilitate final assembly operations on the erection floor.

To move large, finished lathes from east to west across the erection area, one or more floor tracked dollies are used. Placed on these dollies a lathe can be readily transferred to the west side of the plant where a west cross-travelling crane can make a lift. From this point the load is handled progressively through finish painting, crating and loading on truck or railroad car.

Individual entrances to storage areas for forgings and bar stock are located about midway of the building on the west side. These materials are handled in unitized loads.

A hydraulic elevator, of fire-proof design and capable of handling an 8 thousand pound load, connects the parts stockroom in the basement with the manufacturing floor above. It is located near a truck receiving dock at the northeast end of the plant to take care of incoming shipments of small parts and supplies.

Jig and fixture racks, together with general storage racks, are located at various other points on the manufacturing floor where they are readily served by fork lift and platform lift trucks.

Lumber for crates is delivered by truck or rail to the lumber stores space in the shipping department. Crates are constructed on tandem, unconnected dollies that can accommodate any length of container. As a crate is completed, it is rolled toward the finish paint position and then handled by the shipping area crane.

Waste metal is an important item around a metal-working plant. It is carefully retrieved, mechanically hammered into small pieces, briquetted and delivered to a truck by a crane-supported electro-magnet. Crane rails for this operation extend outside the plant and over the west delivery area.

The more or less auxiliary production and service departments are located along the periphery of the plant manufacturing area. Nominal material flow patterns are from south to north and then crosswise toward the point of use or to the center aisle.

Quality Control Center

In the new layout, a Quality Control Center is located within the immediate vicinity of departments that will use it. A "building-within-a-building," this center includes (1) a chemistry laboratory, (2) a metallurgical room, (3) a gear control area, (4) facilities for experimental heat treating and (5) a dark room. Grouped around this completely enclosed space are the plating and finishing, heat treating and gear departments. The heat treat department adjoins the gear, and shaft and spindle departments, both of which

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How industry rolls is dependent to a large extent upon the condition of its floors—and in view of the tremendous beating they take, deserve the very best in maintenance. For nearly half a century, Hillyard has specialized in industrial products to keep floors smooth, dirt-free and slip-resistant — to permit fast, safe, trouble-free operation of material flow, foot traffic and other plant activities from work bench to loading dock. Let Hillyard serve you.
SAFE, LASTING HIGHWAYS FOR TRAFFIC FLOW
100 Hillyard Floor Experts (Maintaineers)
are stationed nationwide to give "on spot" help and advice without charge. Write today for a free floor survey.
. . . on Your Staff — Not Your Payroll
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St. Joseph, Missouri

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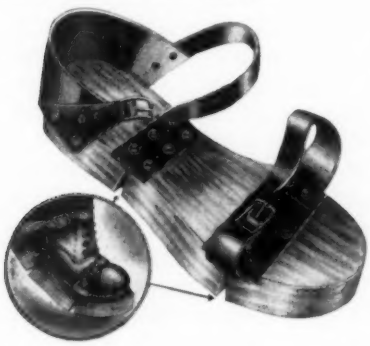
No. 351—An improved Reece "Hot Foot" Sandal with two strong sole leather hinges provides real insulation for those hot jobs. Straps on quickly over any shoe.

Sizes—Small-Medium-Large.



FOR BROKEN TOES

REECE ORTHOPEDIC SHOE
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BROKEN FOOT BONES— CRUSHED TOES
SMOOTHLY finished WOOD SOLE
with AIRFOAM insole acts as splint.
Keeps injured foot immobile.

Keeps a man on the job despite injuries. Fits over bandages. Easily stocked—no lefts—no rights. Also available without foot guard.
SIZES — SMALL-MEDIUM-LARGE

They Insulate
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STRONG STEEL TOE

No. 504-S—Double duty for safety with this Reece "Perfect Rocker" Wooden Sole and Steel Toe Shoe . . . made with durable leather uppers.

Keeps the feet at body temperature regardless of room or floor conditions.

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REECE WOODEN SOLE SHOE CO.

There is no substitute for Reece Wooden Soles

BOX 32-M. Columbus, Nebraska

(For further details, use Key # D-46 on free Inquiry Card on page 81)

make use of heat treating facilities.

The northeast corner of the production area is used for final assembly of carriages, crossfeeds, gear boxes and aprons. These proceed to the erection and testing area which, divided into 5 bays each 53 feet wide, has 6 final-assembly lines. There are also 3 unit-assembly areas, where small parts are made, gears and slides assembled, etc. Each lathe erection station (of which there are 135) is equipped with triple outlets built into the floor to supply (1) alternating current of any phase, frequency or voltage (especially important for testing lathes with foreign destinations), (2) 110-volt current for small power tools and (3) compressed air. Direct current is also available at each station. There are no exposed air or power lines on the assembly floor since provision has been made to carry all such services in duct work in the ceiling of the basement.

As a lathe is completed and leaves the erection area for final painting, crating and shipping, assembly of another unit is started immediately in the vacated spot. All major parts for a complete unit are numbered and made available at the same time. All small components and fasteners required for the erection of that lathe are placed in a cabinet beside the assembly station.

Assembly and Shipping

Workers in the erection area are supplied with caster-mounted work benches that can be moved from position to position so that they always have a good work surface and their own tools conveniently at hand.

After final assembly, erection and test, the completed lathe is given the required number of finish paint coats and started on its way to the customer. To facilitate handling of the larger lathes in the erection area, there are a total of eight overhead cranes that can take lifts. Many smaller cranes are also available throughout the erection area. Finished lathes leave the plant either by rail, from an enclosed railroad dock, or by truck, from an inside truck dock close beside the rail spur where it enters the plant.

The new departmentalization system and the new materials handling facilities, while only in effect a relatively short time, have already confirmed many of the benefits expected to stem from their adoption. The production of lathes and lathe accessories is moving with a new smoothness; and a greater flexibility has been imparted to manufacturing operations for producing turning machines.

The facilities and services connected with the plant have been planned for employee convenience as well as for increased, high quality production.

A company cafeteria, operated at cost, is also maintained for the use

ANSUL CHEMICAL COMPANY • MARINETTE, WISCONSIN
SEE PAGE 11

of employees. Tiled toilet, wash and locker rooms are located at 3 strategic points in the plant. They contain lockers and fixtures, which are easy to keep in a clean and sanitary condition.

Wood Block Floors

Flexibility of the electrical system results in part from the use of wood block floor. This floor has been used because it is comfortable to work on, requires little maintenance and lasts for a long time. However, when it is desired to keep the space around machines clear of wires, and when machines must be relocated to meet new production requirements, a wood block floor has the additional advantage that power wiring to the machines can be brought down at a building column and be run out of sight beneath the wood block floor surface to the machine. This maintains a neat appearance, assures efficient and safe use of space, and yet does not prevent relocation of a machine when desired.

Design of the entire electrical and lighting system for this plant has been predicated on a desire to provide not only maximum flexibility and reliability, but to provide sufficient extra capacity so that no major changes need be made on the electrical distribution system for a long time to come.

Ventilation

Exhaust ventilation in the low bay area of the enlarged plant is provided by five 48-inch fans. Natural ventilation is all that is required in the high bay areas. The process of producing lathes is not essentially a dirty one and consequently does not introduce large dust loads into the air.

Where dust conditions do exist, provision has been made for removal by dust collectors. Outside the south end of the building, where the heavy grinding and dust producing operations are concentrated, there are a total of 13 dust collectors, of which 10 are dry types and

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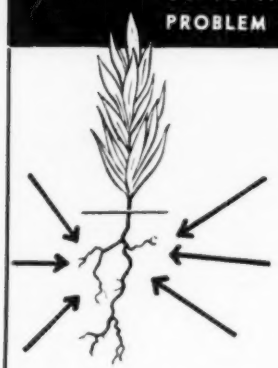
GO TO THE ROOT OF YOUR WEED PROBLEM WITH THESE DOLGE PRODUCTS



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Where no vegetation whatever is desired such as your parking places, walks and tennis courts. Penetrates deep down to plant roots and *kills*. Sterilizes the soil, preventing normal sprouting of wind-blown seeds. Weeding the thorough modern chemical way eliminates backbreaking toil and saves the cost of many labor-hours.

E.W.T. *SELECTIVE* WEED-KILLER (2-4-D)

The *efficient* way to control weeds on your lawns. Works its way down into the roots of brush, dandelion, plantain, poison ivy, ragweed, sumac and other obnoxious plants, *but does not injure most turf grasses.*

Please write for descriptive literature explaining how these tested DOLGE products can best be used for your weeding requirements

FOR FREE SANITARY SURVEY of your premises consult your DOLGE SERVICE MAN

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(For further details, use Key # D-49 on free Inquiry Card on page 81)

3 are wet. All of these collectors have been designed to take suction in a downward direction from the floor level.

Paint fumes are evacuated from the primary painting stations at the south end of the building by hoods over the two water-bath spray booths. At the north end of the building, where the finished paint coats are applied to the lathes, another fume exhaust system is installed. The large quantity of air pulled through the dust and fume systems augments the natural and exhaust fan ventilation.

Three air conditioning systems are used for comfort cooling in office spaces and for conditioning selected spaces where work processes require critical control of atmospheric conditions.

A 10-ton air conditioning system covers the medical department and the personnel department offices. A 40-ton system conditions the air in the engineering department, the executive and sales offices, and the electrical assembly department. A 75-ton unit serves the tool design department, laboratory, inspection gage room, master gage room, valve room, and production control and other shop offices.

Shop air is provided by a 2-stage air compressor with a discharge pressure of 100 psi. Piston displacement of this 125 hp. unit is 800 cfm. Air is used for gauging apparatus, for painting and for operating air-motor tools throughout the manufacturing and erection areas of the plant.

The former compressed air plant, consisting of 2 horizontal compressors, one a 2-stage unit with a capacity of 500 cfm; the other a 300 cfm single-stage unit, remains available for emergency use.

Careful planning, new equipment and intelligent integration of all plant services have been combined to produce a tremendous expansion and modernization program, which has been carried out safely and incorporates safety in both maintenance and production.

Pictures by courtesy of Monarch Machine Tool Company.

MSCO® PELLENT...

NO MORE MOSQUITO BITES

No more lost time fighting mosquitoes, flies, chiggers, etc. . . . no more swatting around in dangerous quarters . . . no more itching welts to distract workers. An application of Pellent lasts at least *six hours* . . . costs less than 2¢. In handy *cream* form . . . no stickiness . . . doesn't come off easily with perspiration. Packaged exclusively by MSco under the Unit System to fit all standard unit type first aid kits. Six non-leaking tubes per Unit. Write for descriptive folder.

Medical Supply Company

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GOSHI I WISH THE BOSS WOULD INSTALL H & K GUARDS BEFORE IT'S TOO LATE!

H & K *Standardized* SAFETY GUARD PARTS

— really make guarding of machines and belts a simple and inexpensive matter. These perforated steel sheets, angles, bands, gussets, floor posts and sockets, may be formed and assembled by your own maintenance personnel. No special tools needed. Adequate open area for high visibility and good ventilation. Guards properly constructed from these sturdy parts will receive prompt approval of safety inspectors.

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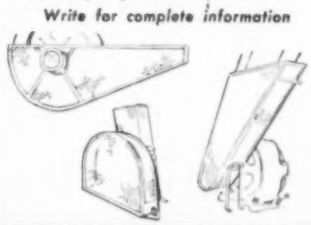

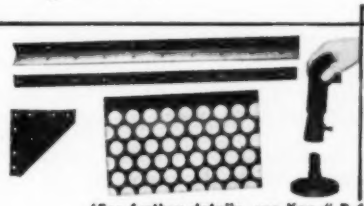

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U.S. PATENT NO. 2,629,895
Combines utmost protection and style. Exclusive patented features found in no other hat.
Write for Free Sample or Order Direct from us
$15.00 dz.
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THE BEST TIME TO STOP A FIRE IS BEFORE IT STARTS
NO SMOKING
DANGER
EXPLOSIVES KEEP OFF
SMOKING CARRYING MATCHES OPEN LIGHTS POSITIVELY PROHIBITED
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WRITE FOR LATEST CATALOG SHOWING SAFETY SIGNS FOR ALL PURPOSES
STANDARD SIGNS, INC.
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(For further details, use Key # D-51 on page 81)

First Aid

(From page 28)

sons are needed, according to the size of the group, the number and types of hazards and the distance from medical attention. Training may be obtained from American Red Cross chapters, the U. S. Bureau of Mines, the American Petroleum Institute, and many other organizations which offer the services of first aid instructors. In Canada, similar training may be obtained through the St. John's Ambulance Service.

Proper first aid facilities, plus skilled first aid workers, supported by trained medical personnel, will give every company and employee therein the best protection when emergencies arise. Statistics show that there is a very definite correlation between first aid consciousness and personal injury frequency. Thorough training and first aid knowledge create safety minded personnel who instinctively avoid occupational hazards.

Pictures by courtesy of Medical Supply Company.

For detailed descriptions of first aid products see pages 243–261 of "Best's Safety and Maintenance Directory" 1952–53 edition.

Safety Research Group

FORMATION of a fire protection and safety research group—the first service of this type especially for Midwest industry—was announced recently at Armour Research Foundation of Illinois Institute of Technology.

Head of the group will be John J. Ahern, director of Illinois Tech's department of fire protection and safety engineering. He also is president of the Society of Fire Protection Engineers and the Greater Chicago Safety Council.

William A. Casler, assistant director of research at the Foundation, explained that companies sponsoring fire protection and safety research at the Foundation will have one or more of these objectives:

1.) To prevent fire or explosions from starting; 2.) To limit the spread of fire after it has started; 3.) To provide for prompt detection of fires; 4.) To provide for prompt extinguishment; and 5.) To prevent accidents.

"Any work the Foundation does in this field will be carried on under the Armour Plan," he said. "Thus, the collective ability of our entire staff is available to help on any sponsor's project."

Casler said the Foundation is prepared to help develop new or improved products, materials, equipment, and instrumentation to meet basic fire protection and safety requirements and standards.

Research Fields

He added that the Foundation can undertake research and development problems in such fields as:

—Combustion (studies on explosive characteristics of gases and dusts; of flame propagation, or spontaneous heating).

—Acoustics (sound control techniques, materials and their burning characteristics).

—Toxicology (detection of harmful vapors and dusts; poisonous effects of materials).

—Explosives (experimental techniques, handling, and storage of explosives).

January Fire Losses

ESTIMATED fire losses in the United States during January amounted to $76,659,000, it was reported by the National Board of Fire Underwriters.

According to Lewis A. Vincent, NBFU's general manager, this $76,659,000 loss represents an increase of 3.4 per cent over losses of $74,155,000 reported for January, 1952, and an increase of 3.4 per cent over losses of $74,127,000 for last December (1952).

These estimated insured losses include an allowance for uninsured and unreported losses.

INSIDE THE TRADE

Ansul Offices in Southwest

TO provide better fire protection service for the southwest's rapidly growing industrial establishments and keep pace with the area's overall growth, Ansul Chemical Company, of Marinette, Wis., manufacturer of dry chemical fire extinguishing equipment, is opening new branch offices in Texas and Oklahoma.

The move is expected to increase the flow of technical information between Ansul's fire engineering and research departments and insurance companies of the southwest, especially with regard to protection of special fire hazards and new developments in industrial fire fighting.

District sales will be supervised by C. H. Armstrong, who is well known to industry in the southwest. Virgil Murry will manage the Houston office at 1110 White Street, Houston; Neal Engberg will manage the Dallas-Fort Worth office at 907½ Throckmorton Street, Fort Worth; and Roger Allen will manage the Tulsa office. Warehouses will be maintained in Houston and at Kansas City, handling the company's line of industrial chemicals as well as fire equipment. The area was previously served by a distributor.

Western Distributors of Maintenance Chemicals

FINE Organics, Inc. announces the appointment of Standard Products, Inc. of 650 East Gilbert Street, Wichita 11, Kansas, as its exclusive selling agents for its Aviation-Industrial line of maintenance chemicals, in the states of Kansas, Oklahoma and Missouri.

Standard Products, Inc. has resident representation in Kansas City, Missouri and a divisional office in Tulsa, Oklahoma. This company has seasoned and tried technical personnel to assist aviation and industrial accounts in the solution of their chemical cleaning problems.

New Headquarters For Solvents Firm

THE John B. Moore Corporation has taken larger offices and is now located in the Lee Building, 349 Franklin Avenue, Nutley, New Jersey. Their new telephone number is Nutley 2-6666. Mailing address will remain as P.O. Box 3. The company specializes in the production and marketing of solvent products designed to replace carbon tetrachloride and other hazardous substances used in industrial cleaning and maintenance operations.

John A. Campbell of Garfield, New Jersey, has been appointed as sales engineer for northern New Jersey.

Philip A. Houghton, Inc., 30 Huntington Ave., Boston 16, Mass., will handle distribution in Massachusetts, Rhode Island and northern New England states.

R. C. Miller, Jr., has been appointed to the company's engineering staff to coordinate safety activities and serve as safety consultant in the use of the company's products. Mr. Miller was formerly with Blaw Knox Construction Company, Chemical Plants Division, as safety engineer.

Myers Holds 2 Week Distribution Classes

FORTY-ONE distributor sales representatives of The F. E. Myers & Bro. Co. have attended a sales training class at the company's main plant to learn of manufacturing methods and uses of the company's products.

During the two-weeks concentrated course, the trainees attended daily instruction periods, led by specialists in different fields. Products covered during the training were water systems, pumps, hand and power sprayers and water conditioning equipment.

New Breuer Plant

MR. A. A. BREUER, president of Breuer Electric Mfg. Co., Chicago, Illinois, has announced the company's acquisition of additional plant facilities. The company has purchased a plant of 8,000 square feet adjoining the present plant at 5100 N. Ravenswood Ave.

The new plant will be used to expand production of the company's line of industrial vacuum cleaners, portable electric blowers and floor scrubbing machines.

Sealed-on PROTECTION
SUPERWEAR NEOPRENE CLOTHING

Conforming to one rigid top quality standard . . . Time tested by years of tough wear . . . Designed for SAFETY . . . Available in SAFETY YELLOW or BLACK.
Dupont's NEOPRENE is *sealed on under pressure* . . . not merely dipped, brushed or sprayed on. Rugged drill cloth backing—used instead of ordinary sheeting—reduces tearing. Garments full cut for working comfort . . . Extra large sizes at NO additional charge.

Write for our complete catalogue.

C. L. LOVIG CO. MARINETTE, WIS.
Manufacturers

Flexible DuPont Neoprene
Acid, oil and sun resistant

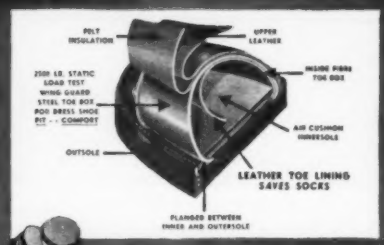
Twenty-five years experience supplying leading industries

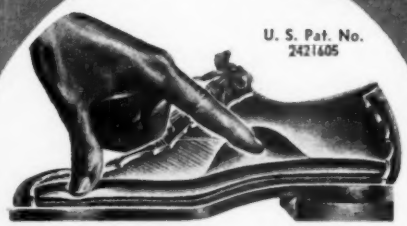
(For further details, use Key # D-52 on free Inquiry Card on page 81)

The CHARLES CHESTER—

Safety Shoe PLAN!

- **No inventory headache**
- **Orders filled as needed from our large factory stock department**





Patented Charles Chester Air Cushion Inner Sole is an *exclusive* feature designed to give daylong comfort. Charles Chester Shoes are made of the finest materials and craftsmanship.

Our Safety Shoe Plan works like this:

1 **Single pair and bulk orders . . .** both are shipped with equal ease and promptness from our Factory stock department.

2 **Backed by Factory Guarantee . . . We guarantee** all Charles Chester Air Cushion Shoes for fit — wear — and comfort. We accept full responsibility for keeping your employees satisfied when they wear Charles Chester Air Cushion Safety Shoes.

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AIR CUSHION SHOES

A copy of the Charles Chester Safety Shoe Plan will be sent to you on request.

Charles Chester Shoe Company, Brockton, Mass. Fine Shoemakers Since 1876

(For further details, use Key # D-53 on free Inquiry Card on page 81)

What's New...

For your convenience in obtaining descriptive literature of products listed here, use the Reader's Inquiry Card. Just write in the code number given with each item. Or send written requests to:

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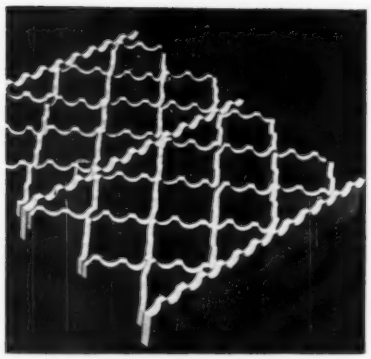


ANTI-SLIP GRATING

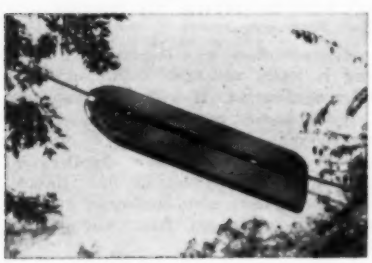
A NEW, patented ⅛" stock grating which checks walking hazards due to oil, grease or water has been developed by the Bustin Firm-Grip Grating Corp. Outstanding feature of the grating is that its serrated edges give sure footing but are still comfortable to walk and stand on. Recent laboratory tests indicate the grating remains slip-proof even after being submerged in chassis grease and tilted to a 15 degree angle. It is ideal for installations where excessive oil, grease, water or icy conditions make walking hazardous; and where drainage and sanitation are necessary.

WIRE CREEPER

THE device enables linemen to string additional wire through trees, over buildings, across ravines and other areas quickly and easily, wherever one wire is already in place.

The Wire Creeper, manufactured by Martindale Electric Company, is placed on the wire and, by pulling and releasing the plastic cord attached to it, the operator moves it away from him and along the wire in 10 to 20 foot leaps from one pole to the next very quickly. Trees slow the operation slightly. When the creeper reaches the next pole, the new wire is pulled across by the plastic cord.

Line splices and frayed insulation are no problem for the device. It will travel up steep inclines and through twigs and foliage of surrounding trees, according to the manufacturer. For night work, a luminous bottom permits the operator to follow its progress closely. Besides its speed of operation the device enables a smaller crew to string more wire. It eliminates the hazard involved in climbing trees, fences, hills, etc.



HAND-CLEANER STATION

SUCCESSFUL results from installation of "hand care stations" in industrial plants is announced by Hammon Products, Inc. Each "station" consists of a gallon or quart dispenser of Hammon's Waterless Hand Soap and a wall cabinet of paper towels. No water is used in cleaning the hands, so the installations are located as required. This eliminates washroom congestion and cuts time loss away from the machines.

According to reports from industrial users, plant workers benefit with improved skin condition resulting from the lanolin and glycerin content in the lotion-type liquid.

PLASTIC COATED GLOVES

TO SAFEGUARD the hands of workers who do dirty jobs and handle harsh materials, a tough, colorful new plastic-coated work glove has been developed by the Granet Corporation. Called Dynagluvs, the new product is liquid-proof and highly resistant to abrasion and abuse. A seamless wing thumb provides an extra safety feature while a natural molded curve contributes to comfort.

Especially compounded for industrial gloves, the coating is available in emerald green. The gloves are made in knitwrist, band top and gauntlet styles, either fully-coated or palm-coated. They are designed to protect working hands that handle oils and chemicals, wood and steel, lumber, bricks, tile, clay, cement and machinery, rubber and paper, fish and meat, etc.

HEAT RESISTANT GOGGLES

A SERIES of features for goggles to be worn on jobs where there is extreme heat has been developed by American Optical Safety Products Division.

Non-toxic, heat resistant and perspiration-proof vinyl binding on side shields, eye binders and bridges is more comfortable and lasts longer than leather. Permanently stitched on eye binders and bridges and heat-sealed on side shields, these vinyl-clad metal goggles can be washed or sterilized as often as necessary.

On special order, these features can now be obtained built into AO Goggles 4145, 4149, 101-45.8, 101-50 and 3039-50.

MOVABLE FIRE PARTITION

A MOVABLE steel fire partition, approved by Underwriters Laboratories, is announced by Virginia Metal Products Corporation.

The partition successfully withstood a temperature of 1700 degrees Fahrenheit for one-hour and the impact, erosion and cooling effects of a hose stream of 30 lbs. pressure per sq. inch discharged for 1 minute through a 1⅛ inch discharge tip 20 feet from the wall without allowing the water to pass. Called the Mobilfirewall, the partition is designed to meet the need for a 1-hour fire partition in storage areas and other special areas in public buildings, schools, hospitals, laboratories, communication companies, factories and other buildings.

The wall forms an homogeneous unit that can be moved when the floor plan is changed. Soap and water are the only cleaning agents needed, the manufacturer reports. The wall can be placed or removed without the debris, dirt or noise common to the replacing of plaster walls. It is constructed of cold-rolled steel, and the insulation is rockwool.

BURN TREATMENT

AN AEROSOL treatment for minor burns, Alke-Mist, has been developed by Drug Products Corp. of America. It utilizes freon as a propellant, and contains a germicide in the form of Benzalkonium Chloride mixed with a bland vegetable oil base. The treatment is said to be a safe and reliable germicide in concentrations of not more than 1 to 1,000 and has a high phenol co-efficient in dilutions as high as 1:30,000 against most pathogenic bacteria.

There is no need to touch a burned area of the skin, since the aerosol operation applies a thin mist of the treatment over the burned area.

A simple valve sends out a fine spray and quickly relieves burned areas. It is suited for first-aid stations in industry, and for placing adjacent to fire extinguishers and other safety apparatus. The product is being used, in addition to its curative value on minor industrial type burns, as a quick treatment for windburn and sunburn.

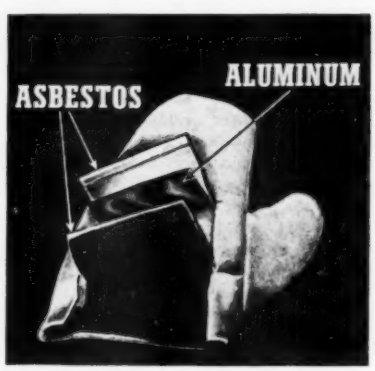
NOISE ANALYZER

THE 420-A Sound Analyzer, manufactured by Hermon Hosmer Scott, Inc., separates noise, sound and vibration signals into their component frequency bands. Such frequency analysis is as important as measurement of noise intensity for machinery and blower noise, industrial hygiene, and acoustical contracting applications. The high and low-pass filters can be independently adjusted in steps of ½ octave. A simple interlock permits the pass-band width to be fixed in any multiple of ½ octave. The position of this pass-band can then be adjusted throughout the audible range by a single control. The analyzer exceeds the American Standards Association's proposed specifications for filter-type sound analyzers.

The analyzer can be used while the operator is walking about. It includes a calibrated attenuator, an indicating meter and an output jack for general purpose filter applications. The unit may also be used as an amplifier having a range exceeding 20 to 20,000 cps. Rugged and compact, the Analyzer weighs 20 lbs. and is 10″ x 10″ x 6″.

HEAT-REFLECTING GLOVE

THE addition of an asbestos, aluminum-lined, reversible mit, to its regular glove line has been announced by the Milburn Company. This glove is said to reflect up to 90% of radiated heat, and is suitable for handling objects up to 1200 degrees Fahrenheit. The asbestos is also specially treated for high abrasion resistance.



ANTI-FOG LENS CLEANER

A NEW anti-fog and lens cleaning cloth has been developed by Carol Chemical Products Corp., for use on glass or plastic surfaces, to prevent the formation of fog or steam on eye-glasses, windshields, windows, mirrors, etc., caused by body heat, humidity or temperature changes. By simply wiping the surface to be treated with the impregnated NO-MIST cloth, the object is both cleaned and fog-proofed in one quick, easy operation, eliminating the need of liquids, tissues or cabinets. Packed in individual plastic bags, the cloth can be carried in the pocket.

ANTI-SLIP FLOOR WAX

THE industrial division of the R. M. Hollingshead Corporation, has just announced the development of a new anti-slip "Triple Service Floor Wax."

The new wax, according to the manufacturer, is designed to give optimum performance in all respects for low-cost floor care. Listed as highly anti-slip material by Underwriter's Laboratories, Inc., it is neither tacky nor gummy, has unusual self-leveling qualities and dries in less than 20 minutes.

The new floor wax is easy to remove, and is water resistant within one hour after application. It withstands repeated damp-moppings, may be spot cleaned and spot-waxed without showing overlap marks and does not show discoloration even in test applications on clear glass.

The wax may also be frozen and exposed to prolonged heat without any harmful effects.

FREE BULLETINS & CATALOGS

As a convenience to executives, these new publications of manufacturers are offered by the Reader Service Department of SAFETY MAINTENANCE & PRODUCTION. To obtain copies write in the key numbers on the free-postage card below.

SAFETY FLOORING

Non-Skid Gratings & Treads 415

Bustin Firm-Grip Grating Corp. This four-page illustrated bulletin and price list describes an open-mesh grating with serrated edges to give a non-slip footing for ramps, stair treads and general walkways. The bulletin shows various styles available, gives recommended uses (such as for machines, oily or wet working conditions) and includes a table of safe loads and other specifications.

Mats and Treads 416

American Floor Products Co. Various types of floor mats, runners and stair treads are presented in an illustrated 16-page booklet. Included are rubber-link, steel and wood mats; various types of rubber runners; rubber or wood counter mats; rubber tile stair treads; fatigue-reducing sponge mats and oil-resistant synthetic mats.

Abrasive Surface Treads 417

American Abrasive Metals Co. A 12-page bulletin describes and illustrates various types of iron, aluminum, bronze and nickel treads to which abrasive particles have been securely cast to provide a positive non-slip walking surface. The bulletin includes specifications and shows the materials in use on stairs, thresholds and platforms. Also described are an abrasive fabric mat, abrasive plastic composition and an abrasive paint—all for non-slip floor surfaces.

PERSONAL PROTECTION

Dust Masks and Safety Equipment 418

Martindale Electric Co. A 5-page section in the manufacturer's catalog of equipment lists and describes safety equipment. Included in this illustrated section are protective masks, eye-shields, respirators, safety lamps, inspection lights, rubber safety handles, fuse pullers and testers, fuse clips and insulating beads. The protective masks are designed to guard against more than 400 non-toxic dusts. The section contains complete descriptions, prices and performance data for each of the company's safety products.

Protective Gloves 419

Pioneer Rubber Co. A question and answer method is used in this 1-page bulletin to outline the types of problems the company's line of gloves is designed to answer. Questions answered are what the glove is to protect against, how much protection is desired, worker fatigue, color, dexterity, resistance to wear and resistance to chemicals as factors in selecting a glove.

Neoprene Soled Safety Shoes 420

The Bearfoot Sole Co. Illustrated in this 4-page bulletin in color are the company's neoprene crepe safety soles. It covers the uses of the new sole and explains its resistant qualities to slipping, oil, grease, chemicals, heat, abrasive surfaces and hard wear. Among other benefits listed are comfort, style and flexibility.

Safety Spectacles 421

Willson Products Inc. Safety lenses with a hard plastic frame extremely resistant to cracking, chipping or crazing are the subject of this 1-page bulletin. Styled in bronze, the plastic frames have wire-core spatula temples in addition to standard half-plastic, half-cable temples with or without side-shields.

Work Gloves 422

C. Walker Jones Co. The company's full line of work gloves is detailed and illustrated in this multi-colored catalog. Twelve pages list and describe heat flame resistant, heavy-duty, light-duty flexible, cut and abrasion resistant, non-slip gloves, pads to slip over gloves and hands, liners, mitts and forearm protective gauntlets. Particularly emphasized are the safety sleeves for forearm protection. The heat resistant gloves are claimed to be flexible and washable and protect by using air cells to insulate the hands.

Safety Goggles 423

Pulmosan Safety Equipment Corp. This 16-page multi-colored catalog covers a complete line of eye protection. Heat-treated for added strength, the goggles include chipping and grinding, welding, riveting, tooling and chemical and dust protective types. Also listed are a lens cleaning cabinet, face shields, eye shields and welding helmets. Plastic goggles for different hazards are also discussed.

MEDICAL AIDS

Burn Spray Kits 424

Medical Supply Co. Six-page folder in 2 colors presents the company's burn spray kits featuring aerosol type dispensers. The dispenser is said to cover the largest burns completely, without touching the burned area with anything but the antiseptic solution. It is claimed to cut pain, keep the wound sanitary, be quickly applied and easily operated. Also included in the kit are different types of bandages, inhalants, sheating, scissors and burn treatments. There are several types of burn kits shown in the folder including various kinds of sprays and burn preparations. One page charts the various kinds of burn first aids that can be furnished.

Stretcher 425

Emergency Aids Co. This emergency stretcher is designed to serve as a flat stretcher, transfer chair, convalescent lounge and 1 person wheeled stretcher. The 2-page pamphlet describes how the cot can be collapsed to occupy little space, can be set up to hold patient at any angle, can be set up quickly, can be used wheel-barrow fashion and can be adapted to hospital, plant, store and ambulance use.

Dermatitis Control 426

West Disinfecting Co. This 32-page booklet, entitled "The Control of Dermatitis in Industry," emphasizes preventive measures in a range of industries. A large chart lists various working conditions, types of dermatitis prevalent under these conditions and suggested preventive measures. Featured in the prevention and control program that the booklet presents are personal cleanliness, protection of exposed skin areas, prevention of clothing contamination, control of hazards and elimination of various dangerous compounds.

BUILDING MAINTENANCE

Maintenance Check-List 427

United Laboratories, Inc. Maintenance products to correct specific maintenance problems are charted in this 6-page folder. Causes of repair for various types of roofs, floors, stairs, metal surfaces, parking lots and loading platforms, wood surfaces, masonry surfaces and insulation are listed. Products recommended for repair are then given opposite the repair needs.

Sanitary Chemicals 428

Uncle Sam Chemical Co., Inc. A 32-page catalog, illustrated in color, covers a line of sanitary and allied products. Included are deodorants, perfume crystals, disinfectants, floor waxes, polishes, cleaners, soaps and shampoos, soap dispensers, insecticides, rat poisons, moth preventives, glass cleaners and spray and dust guns.

MATERIALS HANDLING EQUIPMENT

Conveyor Belts 429

Cambridge Wire Cloth Co. This 136-page catalog is profusely illustrated with photographs, diagrams, blue prints, charts and graphs. In 2 colors, it covers the entire line of conveyor belts put out by the company. Included are designs and specifications for various belts, uses in various industries, performance data, installation procedure and composition of belt necessary for particular job. Among the industrial

(Continued next page)

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uses covered are operations in canneries, bakeries, fruit packing plants, ice cream, meat packing, flash coal drying, textiles, tanneries, rubber, cement, glass and ceramic plants and heat treating industries. Sample layouts and installations and constructional features are dealt with in separate sections.

Portable Stairway 430

R. W. Fireoh Co., Inc. Ways to use portable stairways to prevent accidents, increase production and cut maintenance costs are featured in this 4-page pamphlet. Cleaning walls and ceilings, reaching file cases, cutting inventory time, utilizing space otherwise not reached, lighting and building maintenance, filling plastic presses and maintenance in pumping and power stations are some of the uses outlined.

Dockboards 431

Magnesium Company of America. Featured in this 4-page bulletin is the company's magnesium alloy dockboard. Light enough to be lifted by one man, the dockboard is strong enough to support 50 men, according to the manufacturer. Hand holds for moving, curbs and safety treads for protection against slips, beveled edges to fit floor and chemically resistant coatings are also listed as special qualities of the device.

Industrial Trucks 432

Elwell-Parker Electric Co. A 12-page manual, illustrating and describing the company's line of platform and fork trucks and floor cranes, this 2-color catalog details the components that make up the various trucks. Design data, operating photographs and complete specifications are part of the manual. Also illustrated are attachments which convert the high and low-lift trucks to different uses.

FIRE CONTROL

Static Alarm System 433

John Hewson Co. A 12-page report on the installation of an automatic static alarm system, this literature contains illustrations and layouts of the set-up. The plant-wide installation is designed to provide blanket protection for all hazardous areas. The static hazards and their solution are carefully detailed. Results in reducing static-caused fires and explosions are also set forth.

Fire Protection Equipment 434

American La France Foamite Corp. This 32-page bulletin on fire protection begins with a discussion of the various types of fires, continues with an account of the growth of fire-fighting equipment and goes on to list the various types of apparatus applicable to different fires.

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Guardian Safety Equipment Co.
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BOSTON, MASS.
General Equipment Corporation
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The Watson Company
1443 Main Street

CHICAGO, ILL.
Universal Safety Equipment Co.
5115 Diversey

CINCINNATI, OHIO
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3231 Fredonia Avenue

CLEVELAND, OHIO
Williams & Co., Inc.
3700 Perkins Avenue

COLUMBUS, OHIO
Williams & Co., Inc.
851 Williams Avenue

DETROIT, MICH.
Averill Equipment Company
19225 Conant Avenue

EAST ORANGE, N. J.
Guardian Safety Equipment Co.
491 Prospect Street

HOUSTON, TEXAS
Guardian Safety Equipment Co.
1915 A Westheimer

KANSAS CITY, MO.
Safety, Incorporated
17½ E. 31st Street

KNOXVILLE, TENN.
Safety Equipment Distributing Co.
832 W. Main Street

LITTLE ROCK, ARK.
Fire Appliance & Safety Co.
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LOS ANGELES, CALIF.
Guardian Safety Equipment Co.
6104 S. Main Street

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3155 S. 7th Street

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Universal Safety Equipment Co.
116 S. Garfield

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Guardian Safety Equipment Co.
214 S. 45th Street

PITTSBURGH, PA.
Williams & Co., Inc.
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ST. LOUIS, MO.
Safety, Inc.
2608 Olive Street

ST. PAUL, MINN.
Continental Safety Equipment, Inc.
1551 Selby Ave.

SALT LAKE CITY, UTAH
Universal Fire & Safety
Equipment Co., Box 1587

SAN FRANCISCO, CALIF.
Guardian Safety Equipment Co.
50 Hawthorne Street

SPOKANE, WASH.
Spokane Safety Appliances
W. 310 Pacific Ave.

TOLEDO, OHIO
Williams & Co., Inc.
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TULSA, OKLA.
Guardian Safety Equipment Co.
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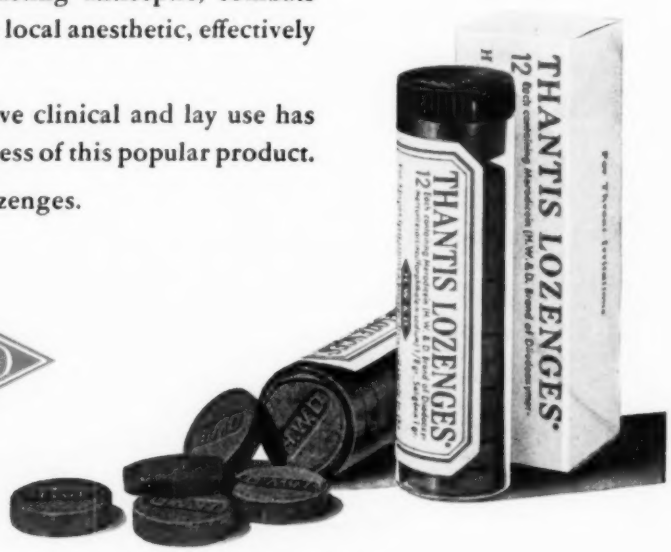

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